

The following pages of *Bridge Design Aids*, Section 9, have been reviewed in May 1989 and found to be valid and appropriate for continued use:

Page	Date	Title
9-1	May 1962	HS20-44 Loading
9-10	May 1962	Simple Beam Shear One Lane
9-10A	Apr 1979	Simple Span Shear (Kips) - One Lane
9-11 thru 9-16	Apr 1963	Bending Moments-Simple Beam
9-20 thru 9-30	May 1962	Moments, Shears and Reactions for Continuous Spans, One Lane Live Load
9-31 thru 9-36	Aug 1962	One Lane Live Load-Hinge at 1/5 Point
9-37 thru 9-42	Aug 1962	One Lane Live Load-Hinge at 1/6 Point
9-43-thru 9-48	Aug 1962	One Lane Live Load-Hinge at 1/7 Point
9-49 thru 9-54	Feb 1965	One Lane Live Load-Hinge at 1/8 Point
9-55 thru 9-60	Aug 1967	One Lane Live Load-Hinge at 1/9 Point
9-61 thru 9-66	Aug 1967	One Lane Live Load-Hinge at 1/10 Point
9-67 thru 9-72	Aug 1967	One Lane Live Load-Hinge at 1/11 Point
9-73 thru 9-78	Aug 1967	One Lane Live Load-Hinge at 1/12 Point
9-81 thru 9-81.5	Mar 1986	Table of Maximum Moments for Permit Load
9-95	Aug 1967	Steam Railroad Loading E-10
9-96	Aug 1967	Steam Railroad Loading E-10

These pages will be updated from time-to-time when significant changes in the technology occur.



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**H20-S16(44) Loading**

**TABLE OF MAXIMUM MOMENTS, SHEARS AND REACTIONS  
SIMPLE SPANS, ONE LANE**

Spans in feet; moments in thousands of foot-pounds; shears and reactions in thousands of pounds.

These values are subject to specification reduction for loading of multiple lanes.

Impact is not included.

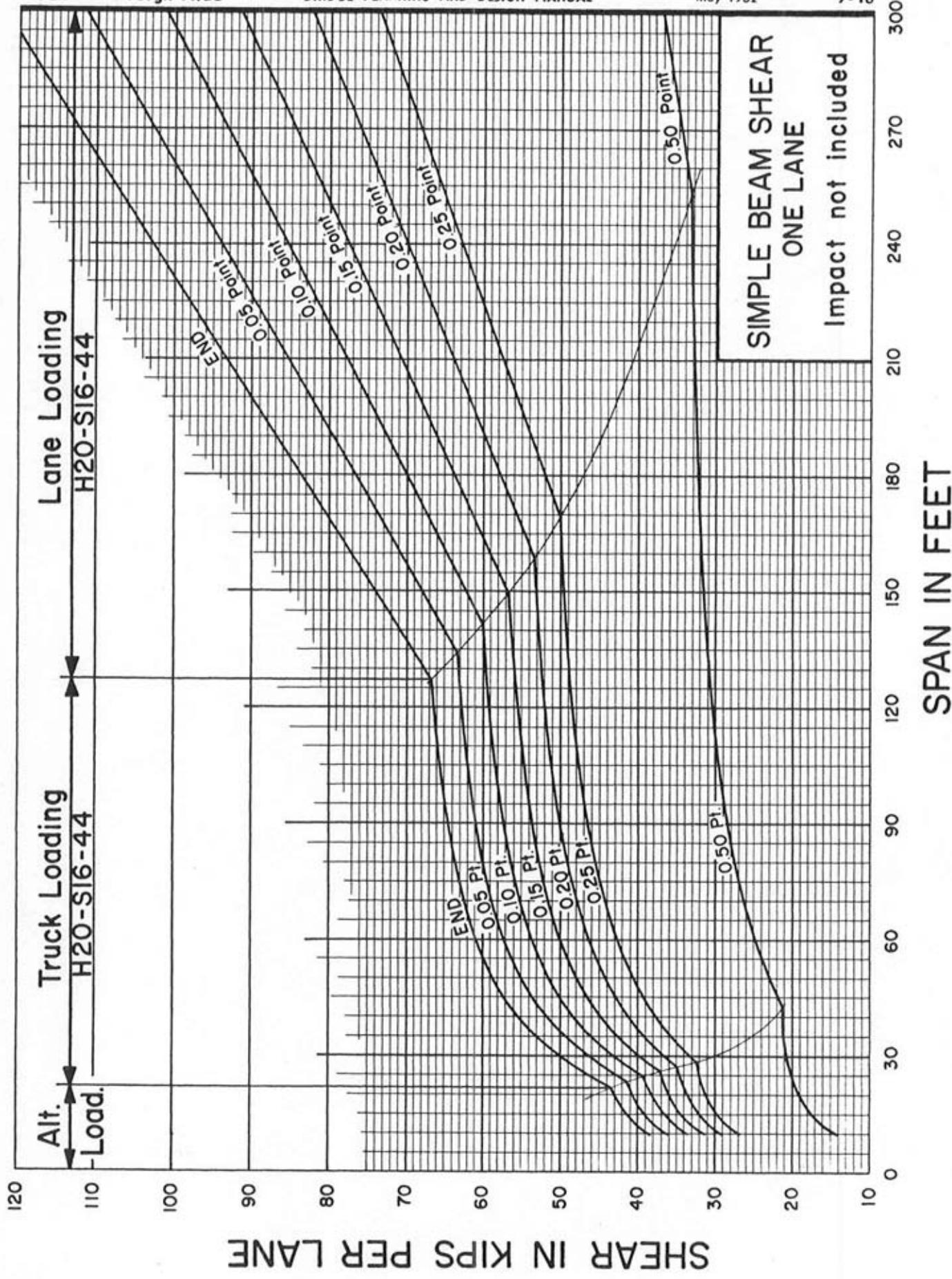
Span	Moment	End Shear and End Reaction *	Span	Moment	End Shear and End Reaction *
1	8.0 <sup>b</sup>	32.0 <sup>b</sup>	39	432.1 <sup>b</sup>	54.8 <sup>b</sup>
2	16.0 <sup>b</sup>	32.0 <sup>b</sup>	40	449.8 <sup>b</sup>	55.2 <sup>b</sup>
3	24.0 <sup>b</sup>	32.0 <sup>b</sup>	42	485.3 <sup>b</sup>	56.0 <sup>b</sup>
4	32.0 <sup>b</sup>	32.0 <sup>b</sup>	44	520.9 <sup>b</sup>	56.7 <sup>b</sup>
5	40.0 <sup>b</sup>	32.0 <sup>b</sup>	46	556.5 <sup>b</sup>	57.3 <sup>b</sup>
6	48.0 <sup>b</sup>	32.0 <sup>b</sup>	48	592.1 <sup>b</sup>	58.0 <sup>b</sup>
7	56.0 <sup>b</sup>	34.3 <sup>a</sup>	50	627.9 <sup>b</sup>	58.5 <sup>b</sup>
8	64.0 <sup>b</sup>	36.0 <sup>a</sup>	52	663.6 <sup>b</sup>	59.1 <sup>b</sup>
9	72.0 <sup>b</sup>	37.3 <sup>a</sup>	54	699.3 <sup>b</sup>	59.6 <sup>b</sup>
10	80.0 <sup>b</sup>	38.4 <sup>a</sup>	56	735.1 <sup>b</sup>	60.0 <sup>b</sup>
11	88.4 <sup>a</sup>	39.3 <sup>a</sup>	58	770.8 <sup>b</sup>	60.4 <sup>b</sup>
12	100.0 <sup>a</sup>	40.0 <sup>a</sup>	60	806.5 <sup>b</sup>	60.8 <sup>b</sup>
13	111.7 <sup>a</sup>	40.6 <sup>a</sup>	62	842.4 <sup>b</sup>	61.2 <sup>b</sup>
14	123.4 <sup>a</sup>	41.1 <sup>a</sup>	64	878.1 <sup>b</sup>	61.5 <sup>b</sup>
15	135.2 <sup>a</sup>	41.6 <sup>a</sup>	66	914.0 <sup>b</sup>	61.9 <sup>b</sup>
16	147.0 <sup>a</sup>	42.0 <sup>a</sup>	68	949.7 <sup>b</sup>	62.1 <sup>b</sup>
17	158.8 <sup>a</sup>	42.4 <sup>a</sup>	70	985.6 <sup>b</sup>	62.4 <sup>b</sup>
18	170.7 <sup>a</sup>	42.7 <sup>a</sup>	75	1,075.1 <sup>b</sup>	63.1 <sup>b</sup>
19	182.5 <sup>a</sup>	42.9 <sup>a</sup>	80	1,164.0 <sup>b</sup>	63.6 <sup>b</sup>
20	194.4 <sup>a</sup>	43.2 <sup>a</sup>	85	1,254.7 <sup>b</sup>	64.1 <sup>b</sup>
21	206.3 <sup>a</sup>	43.4 <sup>a</sup>	90	1,344.4 <sup>b</sup>	64.5 <sup>b</sup>
22	218.2 <sup>a</sup>	43.6 <sup>a</sup>	95	1,433.2 <sup>b</sup>	64.9 <sup>b</sup>
23	230.1 <sup>a</sup>	44.5 <sup>a</sup>	100	1,524.0 <sup>b</sup>	65.3 <sup>b</sup>
24	242.0 <sup>a</sup>	45.3 <sup>a</sup>	110	1,703.6 <sup>b</sup>	65.9 <sup>b</sup>
25	253.9 <sup>a</sup>	46.1 <sup>a</sup>	120	1,883.3 <sup>b</sup>	66.4 <sup>b</sup>
26	265.8 <sup>a</sup>	46.8 <sup>a</sup>	130	2,063.1 <sup>b</sup>	67.6
27	277.8 <sup>a</sup>	47.4 <sup>a</sup>	140	2,242.8 <sup>b</sup>	70.8
28	289.7 <sup>a</sup>	48.0 <sup>a</sup>	150	2,475.1	74.0
29	301.7 <sup>a</sup>	48.8 <sup>a</sup>	160	2,768.0	77.2
30	313.6 <sup>a</sup>	49.6 <sup>a</sup>	170	3,077.1	80.4
31	325.5 <sup>a</sup>	50.3 <sup>a</sup>	180	3,402.0	83.6
32	337.5 <sup>a</sup>	51.0 <sup>a</sup>	190	3,743.1	86.8
33	349.5 <sup>a</sup>	51.6 <sup>a</sup>	200	4,100.0	90.0
34	361.4 <sup>a</sup>	52.2 <sup>a</sup>	220	4,862.0	96.4
35	373.4 <sup>a</sup>	52.8 <sup>a</sup>	240	5,688.0	102.8
36	385.3 <sup>a</sup>	53.3 <sup>a</sup>	260	6,578.0	109.2
37	397.3 <sup>a</sup>	53.8 <sup>a</sup>	280	7,532.0	115.6
38	414.3 <sup>b</sup>	54.3 <sup>b</sup>	300	8,550.0	122.0

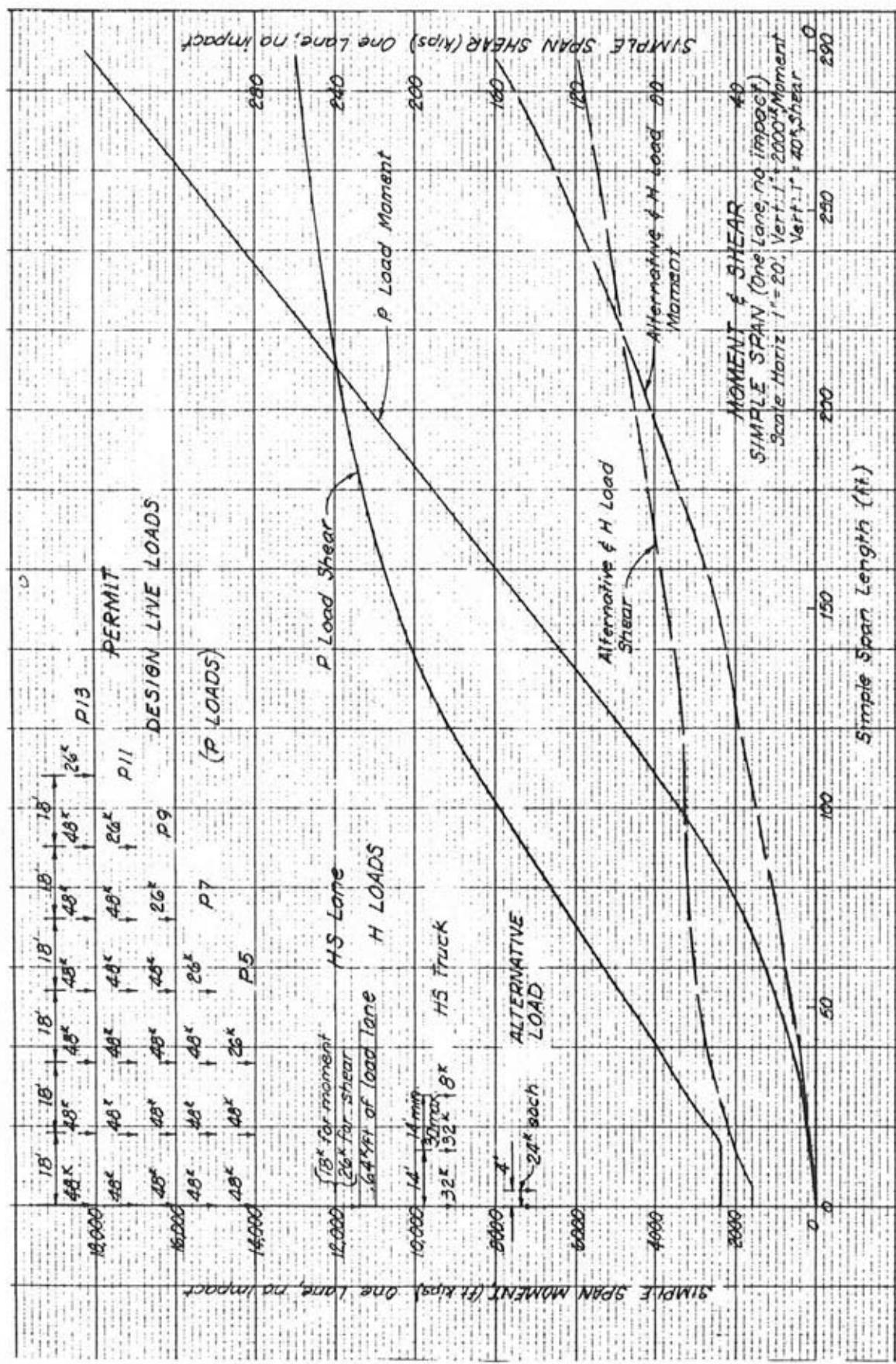
\* The concentrated load is considered placed at the support. Loads used are those stipulated for shear.

<sup>b</sup> Maximum value determined by Standard Truck Loading (one H-S truck).

<sup>a</sup> Maximum value determined by Special Loading (24,000 lb. dual axles spaced 4'-0" c. to c.).

Unless otherwise indicated, the maximum values are determined by the Standard Lane Loading.





## BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

SPAN	WL <sup>2</sup>	SIMPLE BEAM MOMENT AT GIVEN POINT						F.E.M. ONE END FIXED	F.E.M. BOTH ENDS FIXED
		.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5	.5		
1	1	5	6	8	10	12	14	15	16
2	1	13	18	23	28	33	38	43	48
3	1	27	32	37	42	47	52	57	62
4	1	45	50	55	60	65	70	75	80
5	1	73	78	83	88	93	98	103	108
6	1	05	10	15	20	25	30	35	40
7	1	30	35	40	45	50	55	60	65
8	1	57	62	67	72	77	82	87	92
9	1	85	90	95	100	105	110	115	120
10	1	10	12	14	16	18	20	22	24
11	1	13	15	17	19	21	23	25	27
12	1	16	18	20	22	24	26	28	30
13	1	19	21	23	25	27	29	31	33
14	1	22	24	26	28	30	32	34	36
15	1	25	27	29	31	33	35	37	39
16	1	28	30	32	34	36	38	40	42
17	1	31	33	35	37	39	41	43	45
18	1	34	36	38	40	42	44	46	48
19	1	37	39	41	43	45	47	49	51
20	1	40	42	44	46	48	50	52	54
21	1	43	45	47	49	51	53	55	57
22	1	46	48	50	52	54	56	58	60
23	1	49	51	53	55	57	59	61	63
24	1	52	54	56	58	60	62	64	66
25	1	55	57	59	61	63	65	67	69
26	1	58	60	62	64	66	68	70	72
27	1	61	63	65	67	69	71	73	75
28	1	64	66	68	70	72	74	76	78
29	1	67	69	71	73	75	77	79	81
30	1	70	72	74	76	78	80	82	84
31	1	73	75	77	79	81	83	85	87
32	1	76	78	80	82	84	86	88	90
33	1	79	81	83	85	87	89	91	93
34	1	82	84	86	88	90	92	94	96
35	1	85	87	89	91	93	95	97	99
36	1	88	90	92	94	96	98	100	102
37	1	91	93	95	97	99	101	103	105
38	1	94	96	98	100	102	104	106	108
39	1	97	99	101	103	105	107	109	111
40	1	100	102	104	106	108	110	112	114

BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

SPAN	$WL^2$	SIMPLE BEAM MOMENT AT GIVEN POINT					
		.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5	.6 & .9
		F.E.M.					
		1	2	3	4	5	6
			1	2	3	4	5
				1	2	3	4
					1	2	3
						1	2
							1

## BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

SPAN	WL <sup>2</sup>	SIMPLE BEAM MOMENT AT GIVEN POINT					
		.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5	F.E.M.
		ONE END FIXED	BOTH ENDS FIXED				
6	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1
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24	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1
26	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1
29	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1
31	1	1	1	1	1	1	1
32	1	1	1	1	1	1	1
33	1	1	1	1	1	1	1
34	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1
36	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1
38	1	1	1	1	1	1	1
39	1	1	1	1	1	1	1
40	1	1	1	1	1	1	1
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42	1	1	1	1	1	1	1
43	1	1	1	1	1	1	1
44	1	1	1	1	1	1	1
45	1	1	1	1	1	1	1
46	1	1	1	1	1	1	1
47	1	1	1	1	1	1	1
48	1	1	1	1	1	1	1
49	1	1	1	1	1	1	1
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51	1	1	1	1	1	1	1
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147	1	1	1	1	1	1	1
148	1	1	1	1	1	1	1
149	1	1	1	1	1	1	1
150	1	1	1	1	1	1	1
151	1	1	1	1	1	1	1
152	1	1	1	1	1	1	1

BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

BENDING MOMENTS IN BEAMS DUE TO A UNIFORM LOAD OF 1 KIP PER FT.

SPAN	WL <sup>2</sup>	SIMPLE BEAM MOMENT AT GIVEN POINT						F.E.M.
		.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5	.5	
190	0	36100	36481	36864	37249	37636	38025	38416
191	1	36100	36481	36864	37249	37636	38025	38416
192	2	36100	36481	36864	37249	37636	38025	38416
193	3	36100	36481	36864	37249	37636	38025	38416
194	4	36100	36481	36864	37249	37636	38025	38416
195	5	36100	36481	36864	37249	37636	38025	38416
196	6	36100	36481	36864	37249	37636	38025	38416
197	7	36100	36481	36864	37249	37636	38025	38416
198	8	36100	36481	36864	37249	37636	38025	38416
199	9	36100	36481	36864	37249	37636	38025	38416
200	0	36100	36481	36864	37249	37636	38025	38416

**Moments, Shears, and Reactions for Continuous Spans  
Live Loading H20-S16-44**

(a) General

The following live load tables may be used for most designs. The left side of the table lists maximum simple beam moments and fixed end moments that result from the loading that produces that simple beam moment. The right side of the table lists maximum fixed end moments and the simple beam moments that result from the loading that produces that fixed end moment. The center of the table lists maximum shears and reactions. Accuracy is within 2% for members with uniform or nearly uniform moment of inertia.

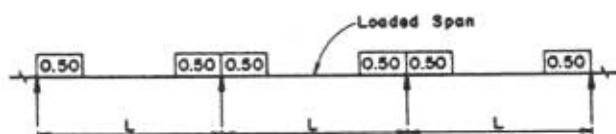
For extremely unbalanced spans or for spans adjacent to hinges. The designer will have to determine the loading which will produce maximum moments.

The values for moments, shears, and reactions are for one lane of H20-S16-44 loading without impact. Either alternative loading or lane loading has been used where these loadings produce more critical stresses than the Standard H-S Truck.

The following discussion summarizes the assumptions and decisions made in the development of these live load tables.

(b) Moment at Midspan

To obtain the maximum positive moment at midspan, the span was loaded to obtain the maximum SBM. Although the assumption that the maximum SBM occurs at midspan is not strictly correct except where only one axle of the truck is on the span or where the lane loading is used, the error introduced is considered to be insignificant. The decision to change loading was made on the basis of the positive moment after the FEM's were distributed, assuming distribution factors of 0.50 at the joints. The figure used in this calculation is shown below.



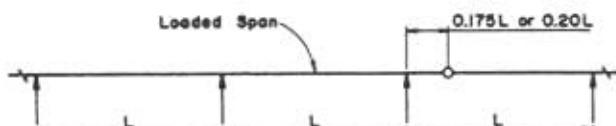
The spans on which the loadings are changed in this section of the table will not be the same as the spans shown in the table on page 4D.2.7-1 because the table shown on page 4D.2.7-1 is for simply supported spans.

When the adjacent spans are between 0.75 L and 1.33 L in length, assuming the loaded span to be of "L" length, the maximum resulting error in positive moment at midspan is 1.35%.

There is no significant error if an adjacent span is "L" in length and has a hinge located between 0.175 L and 0.20 L from the far end of the span being designed.

For the case where the hinge is located between 0.175 L and 0.20 L from the near end, adjacent to the loaded span, the maximum error is slightly less than 5%. Since this maximum error occurs at a span of 14' it is recommended it be ignored.

For your information, the tabulation below shows the limits for each loading for this particular case.

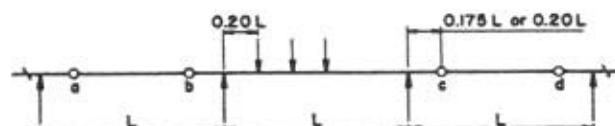


Loading	Span in feet
Truck	1 to 12
Alternative	13 to 39
Truck	40 to 155
Lane	156 on up

(c) Moments for 0.2 or 0.8 points

Since the LL positive envelop curve is not an exact parabola, the SBM's and the FEM's are given for the loadings at the 0.2 point of a span fixed at both ends. The change in type of loading was determined on the basis of the positive moment at the 0.2 point after the FEM's were distributed, assuming distribution factors of 0.50 at the joints.

If the adjacent spans are between 0.75 L and 1.33 L in length, assuming the loaded span to be of "L" length, the values in the table may be used up to a span length of 225' with a maximum error of 5%. Beyond a span length of 225' the designer should determine whether the Truck or the Lane Loading is the critical loading if the adjacent spans are not the same length as the loaded span.



When one of the adjacent spans has a hinge located 0.175 L or 0.20 L from the far end, locations "a" and "d" in the figure above, the table values may be used without any error. For the hinge located at "c", the maximum error is 1%. In case the hinge is placed at "b", the tabulation shown below is to be used to determine whether a loading different from that in the table should be used for a particular span length.

Loading	Span in feet
Truck	1 to 9
Alternative	10 to 32
Truck	33 to 168
Lane	169 on up

*(d) Spans Simply Supported at One End*

The FEM's and the SBM's for spans simply supported at one end have been given at the 0.2, 0.4, 0.6, and 0.8 points of the span. The change in loading was made on the basis of the positive moment at the point under consideration, assuming that the distributed LL moment at the first interior support is equal to 46.42 percent of the FEM. This percentage is based on distribution factors of 0.50 at the joints, the end span being  $\frac{1}{4}$  the length of the interior spans.

No significant error, 1% or less, is introduced even if the end span is the same length as the interior spans except for the loadings at the 0.8 point where the error may be as high as 10%. Therefore, when the end span is approximately the same length as the interior span, it may be necessary for the designer to use a loading other than that shown in the table for the 0.8 point. To help in determining when this is the case, the tabulation below shows the limits of each loading for the case where the end span and interior spans are of length "L".

Loading	Span in feet
Truck	1 to 17
Alternative	18 to 59
Truck	60 to 262
Lane	263 on up

If the end span is one-half the length of the interior spans, a maximum error of 1% may result except for the loadings at the 0.8 point where the error may be as high as 9%. To help in determining whether another loading should be used for the 0.8 point when the end span is approximately one-half the length of the interior spans, the tabulation below shows the limits for each loading when the end span length is one-half "L".

Loading	Span in feet
Truck	1 to 11
Alternative	12 to 37
Truck	38 to 190
Lane	191 on up

*(e) Maximum Shears and Reactions*

To help in plotting the shear diagram, the LL shear at midspan is given. The designer should note that the LL values given in this table may have to be increased for moment shear.

*(f) Negative Moments*

In calculating the FEM's for the negative moments, the loadings were placed so as to obtain a maximum FEM at joint B. The assumption that the maximum final distributed moment will result from the maximum FEM @ B is in error in the order of 0.3% for a span continuous at both ends.

To calculate the maximum negative moment at a joint, the Lane Loading is usually the governing loading except for spans 45 feet or less in length where the Truck Loading with its 32 kips axles variably spaced from 14 feet to 30 feet inclusive may govern. A separate table will be issued to handle this case.

For very short spans adjacent to relatively long spans, the Truck Loading placed in the long span may give higher negative moment at the joint under consideration than if the Lane Loading was placed on both the short and long spans. Therefore, the SBM's, FEM's, and location of the rear axle of the Truck have been given for this case up to 125 feet for the span simply supported at one end and 144 feet for the span fixed at both ends. Beyond these span lengths, the Lane Loading will give a higher FEM @ B.

Where the Truck Loading is used to obtain the maximum longitudinal moment for the design of columns, the simple beam reaction at the bent may be obtained by dividing the "SBM" by "aL".

*(g) Spans with Hinge Points*

Tables for One Lane Live Load for span in which a hinge occurs at 1/5, 1/6, 1/7, 1/8, 1/9, 1/10, 1/11 and 1/12 points are also included.

## ONE LANE LIVE LOAD (H20-516-44)

(Impact not included)

## POSITIVE MOMENTS (kip foot)

IMPACT IN FT.	SPAN IN FT.	LOADING												NEGATIVE MOMENTS (kip foot)																					
		TRUCK (T)			ALTERNATIVE (A)			ALTERNATIVE (L)			SIMPLE SPAN SHEARS & REACTIONS (A)			CENTRAL REACTION SPANS (B)			SIMPLE SPAN SHEARS & REACTIONS (B)			CENTRAL REACTION SPANS (C)															
SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM											
1	300	8.07	4.0	5.17	4.1	1.0	5.17	3.1	7.77	5.4	6.1	5.17	4.6	32.07	16.07	32.07	4.51	3.5	0.4	0.87	6.2	4.16	2.7	1.4	0.3	7.17	4.7	2.4	1						
2	300	16.0	8.0	10.2	8.2	2.0	10.2	6.1	15.4	12.3	10.2	9.2	10.2	9.2	32.0	16.0	32.0	9.1	7.2	0.8	15.6	12.3	8.3	5.5	2.9	0.7	16.2	9.5	4.7	2					
3	300	24.0	12.0	12.0	12.0	3.1	15.4	9.2	23.0	18.4	15.4	13.8	23.0	18.4	32.0	16.0	32.0	13.9	11.1	1.3	23.4	18.5	12.6	8.5	4.5	1.0	21.3	14.2	7.1	3					
4	300	32.0	16.0	16.0	16.0	4.1	20.6	12.3	30.7	21.5	20.6	18.4	30.7	21.5	32.0	16.0	32.0	18.8	15.1	1.7	31.2	24.6	17.1	11.5	6.2	1.3	28.4	19.0	9.5	4					
5	300	40.0	20.0	20.0	20.0	5.1	25.6	20.5	30.5	26.9	38.4	26.9	38.4	30.7	25.6	23.0	32.0	16.0	32.0	23.2	19.2	2.1	39.1	30.8	21.8	14.7	8.0	1.7	35.6	23.7	11.9	5			
6	300	48.0	24.0	24.0	24.0	6.1	30.7	16.4	46.1	32.3	46.1	30.9	30.7	27.6	32.07	16.0	32.07	29.2	23.7	2.6	46.9	37.0	26.6	17.9	9.9	2.0	42.7	26.4	14.2	6					
7	300	56.0	28.0	28.0	28.0	7.2	35.8	21.5	53.0	37.6	53.0	35.8	35.8	32.3	34.3A	16.0	34.3A	34.6	28.2	3.0	54.77	43.1	31.5	21.3	11.9	2.3	49.8	33.2	16.6	7					
8	300	64.0	32.0	32.0	32.0	8.2	41.0	32.8	41.0	32.8	41.0	36.0	41.0	36.0	40.1	32.8	16.0	45.9A	54.1	36.6	24.7	14.1	2.7	56.97	37.9	19.0	8								
9	300	72.0	36.0	36.0	36.0	9.2	46.1	36.9	46.1	46.1	49.4	49.4	49.4	49.4	55.2	46.1	41.5	37.3	45.9	37.7	2.2	56.4	65.4	41.6	28.3	16.3	1.8	49.3A	45.3	30.5	9				
10	300	80.0	40.0	40.0	40.0	10.2	57.6	69.1	76.0	53.8	76.0	69.1	76.0	76.0	80.1	76.0	61.4	51.2	46.1	38.4	16.0	36.4	51.7	42.6	2.6	67.2	76.3	47.1	32.0	18.7	2.0	57.6	53.8	43.2	10
11	300	88.0	44.0	44.0	44.0	11.3	65.3	76.1	84.57	59.1	85.3A	60.1	86.3	50.7	39.3	16.0	39.3	57.8	47.8	3.0	76.2	86.9	52.6	35.8	21.1	2.3	66.5	62.1	45.7	11					
12	300	96.0	48.0	48.0	48.0	12.3	73.0	82.6	99.8A	97.2	99.8	91.0	61.4	55.3	40.0	16.07	40.0	64.0	53.1	3.4	89.3	97.3	59.2	39.7	23.7	2.5	75.7	70.4	49.0	12					
13	300	104.0	52.0	52.0	52.0	13.3	80.6	88.7	111.4	107.5	111.4	101.6	66.6	59.9	40.6	16.6A	40.6A	70.3	56.6	3.8	100.6	107.5	64.0	43.7	26.3	2.8	85.2	78.5	52.3	13					
14	300	112.0	56.0	56.0	56.0	14.3	88.3	94.6	122.9	117.5	122.9	112.1	71.77	64.5	41.1	17.1	41.1	76.8	64.2	4.2	111.9	117.6	69.9	47.8	29.1	3.1	94.6	86.5	55.6	14					
15	300	120.2A	72.0	91.2	76.8	15.4	96.0	100.3	134.4	127.1	134.4	122.6	96.0A	120.5	41.6	17.6	41.6	83.5	70.0	4.6	123.3	127.6	76.0	52.0	32.0	3.4	104.8	94.4	56.9	15					
16	300	147.0	76.9	98.1	81.9	16.4	103.7	105.6	145.9	136.6	145.9	132.7	103.7	129.0	42.0	18.0	42.0	90.3	75.7	5.0	134.8	137.5	82.2	55.3	35.0	3.7	114.8	102.2	62.2	16					
17	300	156.8	95.1	104.6	87.07	69.6	17.4	111.4	111.1	117.4	115.8	117.4	112.2	111.4	127.2	42.4	18.4	42.4	97.3	82.0	5.4	146.3	147.4	88.6	60.7	38.1	4.0	124.9	110.0	65.8	17				
18	300	170.7	91.3	111.4	119.0	116.2	56.3	119.0	116.4	119.0	115.9	115.9	112.9	119.0	145.3	42.7	18.7	42.7	104.4	88.3	5.8	157.8	157.1	95.0	65.3	41.3	4.3	135.0	117.6	65.9	18				
19	300	182.5	97.4	118.0	126.7	121.4	59.9	126.7	121.6	120.5	163.9	162.9	126.7	159.4	142.9	18.9	42.9	111.7	94.7	6.2	169.3	166.6	101.7	69.9	44.6	4.7	145.2	125.3	75.2	19					
20	300	194.4	103.6	124.4	124.4	126.6	61.4	134.4	126.7	122.0	172.0	172.0	172.0	172.0	172.0	192.6	19.2	44.07	119.1	101.3	6.6	180.9	176.5	105.4	74.7	48.0	5.0	155.5	132.6	75.6	20				
21	300	206.3	109.7	150.9	142.1	137.6	63.0	142.1	131.8	203.5	181.6	203.5	187.7	142.1	169.1	45.4	19.4	45.4	186.1	115.4	78.5	5.3	165.8	140.4	79.0	21	103.4	91.1	250.6	233.8	107.7	95.0	24		
22	300	218.2	115.8	137.3	149.0	144.6	64.5	149.0	136.0	215.0	190.3	215.0	192.5	149.0	195.6	45.5	134.5	114.9	7.5	204.1	195.7	122.4	84.5	55.1	5.6	176.2	147.8	82.3	22						
23	300	230.1	122.0	143.6	174.9	185.8	65.0	157.4	151.0	226.6	199.0	226.6	202.2	157.4	186.6	44.57	19.8	47.7	182.4	122.0	7.9	210.7	205.3	129.6	89.5	58.9	5.9	186.5	185.4	85.7	23				
24	300	242.0	128.1	149.9	165.1	155.4	67.5	146.7	138.1	207.6	210.0	207.6	212.0	165.1	192.2	45.3	20.0	46.7	180.4	9.2	13.27.3	214.8	197.0	94.7	62.7	6.3	197.0	162.6	89.1	24					
25	300	253.8	134.2	155.2	172.0	165.3	62.0	172.0	151.6	249.6	216.1	249.6	221.6	172.0	199.6	45.1	20.2	49.6	101.3	136.6	6.7	230.9	224.3	144.4	100.0	66.7	6.6	207.4	170.2	92.6	25				
26	300	265.8	140.3	162.5	180.5	172.1	70.5	180.5	166.5	241.1	224.6	241.1	231.3	180.5	207.3	46.8	20.3	50.5	167.0	144.1	9.1	250.6	233.8	152.7	127.6	95.0	24								
27	300	277.6	146.4	169.7	189.2	178.6	71.9	189.2	161.3	272.6	233.1	272.6	240.9	189.2	214.6	47.4	20.4	51.3	175.6	151.9	9.5	262.2	243.3	189.6	110.9	74.9	7.2	226.3	186.0	94.4	27				
28	300	289.7	162.5	174.9	195.8	185.5	73.4	195.6	166.2	284.2	241.5	284.2	265.6	195.6	222.2	48.0	20.6	52.0	184.2	159.7	10.0	273.9	252.7	167.8	116.8	79.1	7.6	232.6	192.3	102.9	28				
29	300	301.7	188.6	184.7	187.3	174.9	165.1	203.5	192.2	245.7	211.0	245.7	220.5	192.2	207.0	52.7	192.1	163.7	6.8	227.3	207.0	167.7	142.1	105.3	10.3	199.7	189.7	105.3	29						
30	300	313.6	188.6	184.7	187.3	174.9	165.1	203.5	192.2	245.7	211.0	245.7	220.5	192.2	207.0	52.7	192.1	163.7	6.8	227.3	207.0	167.7	142.1	105.3	10.3	199.7	189.7	105.3	20						

## ONE LANE LIVE LOAD (H20-S16-44)

(Impact not included)

LOADING TRUCK (T)	POSITIVE MOMENTS (kip feet)												NEGATIVE MOMENTS (kip feet)											
	SIMPLE SPAN SHEARS & REACTIONS (kip)				CENTRAL SPAN ORD SHEAR AT END REACTION (kip)				CENTRAL SPAN 2 EQUAL SPANS ORD SHEAR AT END REACTION (kip)				SIMPLE SPAN SHEARS & REACTIONS (kip)				SIMPLE SPAN SHEARS & REACTIONS (kip)				CENTRAL SPAN ORD SHEAR AT END REACTION (kip)			
ALTERNATIVE (A) LANE (L)	FEM @ CTR	FEM @ B	FEM @ C	FEM @ 2L	FEM @ B	FEM @ C	FEM @ .2L	FEM @ B	FEM @ CTR	FEM @ B	FEM @ C	FEM @ .4L	FEM @ B	FEM @ CTR	FEM @ B	FEM @ C	FEM @ .3L	FEM @ B	FEM @ C	FEM @ .3L	FEM @ B	FEM @ C		
12-2 ACT	SBM @ CTR	SBM @ B	SBM @ C	SBM @ 2L	SBM @ B	SBM @ C	SBM @ .2L	SBM @ B	SBM @ CTR	SBM @ B	SBM @ C	SBM @ .4L	SBM @ B	SBM @ CTR	SBM @ B	SBM @ C	SBM @ .3L	SBM @ B	SBM @ C	SBM @ .3L	SBM @ B	SBM @ C		
31-300	325.5A	170.6	193.5	218.9A	205.4	77.9	218.9A	180.6	318.7A	265.7	510.7	279.2	218.9A	244.4	30.5T	20.9A	53.9T	211.2L	184.3	7.5265.0T	287.7	192.3L	133.9	92.6
32-300	337.5	176.9	199.6	226.6	212.0	79.3	238.1T	230.2	276.1	330.2	286.7	226.6	281.0	51.0	21.0	54.5	220.6	192.8	7.9270.2	312.4	200.8	139.9	97.3	
33-300	349.5	182.9	205.8	234.2	218.6	80.8	302.5	341.8	285.4	341.6	398.2	234.2	281.5	51.6	21.1	55.0	230.0	201.4	8.3284.6	327.0	203.4	146.1	102.1	
34-300	361.4	189.0	211.9	241.9	225.1	82.3	312.7	353.3	307.7	241.9	266.3	249.6	210.2	58.5	21.2	58.5	239.0	210.2	8.7289.0	341.5	216.8	152.8	107.0	
35-300	373.4	195.1	218.1	249.6	231.7	89.8	266.8	322.6	364.8	300.0	354.8	317.2	249.6	273.5	52.6	21.3	58.0	249.4	219.2	9.0319.5	355.9	227.1	158.7	112.0
36-300	385.3	201.1	224.2	267.3	238.2	85.3	280.3	330.3	376.3	308.3	376.3	326.6	257.3	260.8	53.3	21.3	56.4	259.4	229.4	9.4326.1	370.1	236.2	165.1	117.1
37-300	397.3	207.2	230.3	265.0	244.6	86.7	291.8	355.5	397.8	316.5	387.8	336.1	265.0	288.0	53.8	21.4	56.9	269.5	237.7	9.8342.7	364.3	245.4	171.7	122.3
38-300	409.3	213.3	236.4	272.6	251.1	88.2	303.4	368.1	399.4A	324.8	410.2T	375.9	287.6	285.2	84.3	21.8	57.3	240.4	247.7	8.6339.1	286.4	264.7	178.3	127.7
39-300	421.2	219.5	242.5	280.3	257.6	89.7	314.9	382.2	427.5	347.5	416.9	393.3	280.4	302.4	84.8	21.5	57.5	290.1	256.8	9.2347.1	416.9	264.7	185.1	133.1
40-300	433.2	221.4	246.6	288.0	264.0	91.2	326.4	395.6	444.8	433.0	444.8	410.6	268.0	309.6	85.2	21.6	58.0	300.7	266.5	9.5362.6	439.3	273.6	192.0	138.7
41-300	445.2	231.4	254.7	285.7	270.4	92.7	337.9	400.9	462.1	449.0	462.1	427.7	295.7	316.8	85.6	21.7	58.3	311.4	275.5	9.9376.7	449.6	285.6	199.0	144.3
42-299	457.1	237.5	260.8	276.8	256.4	94.2	329.4	421.7	479.4	464.7	479.4	444.7	305.4	323.9	86.0	21.7	58.7	322.3	285.6	10.3394.6	465.9	285.4	205.1	160.1
43-298	469.1A	245.5	265.9	311.0	283.2	95.7	351.0	434.1	496.6	461.6	511.0	391.1	416.9	86.4	21.8	59.0	398.3	298.3	13.3395.3	416.9	303.5	219.3	151.9	
44-296	520.9T	286.5	354.2	318.7	289.6	97.2	372.5	446.2	513.9	495.7	513.9	478.3	318.7	338.2	86.7	21.8A	59.3	344.6	307.3	11.0426.8	490.1	315.7	220.6	161.9
45-294	538.7	296.6	365.3	326.4	296.0	98.7	384.0	458.1	531.2	495.0	531.2	486.4	346.3	346.3	87.1	22.0T	59.6	355.9	317.9	11.4443.0	514.0	324.0	228.0	168.0
46-292	556.5	306.9	376.2	394.1	302.4	100.1	395.6	469.6	546.5	526.0	546.5	511.5	384.1	382.5	87.4	22.3	59.8	367.4	328.5	11.8389.3	530.0	384.5	255.5	174.2
47-291	574.3	317.1	387.1	341.8	308.7	101.6	407.0	480.9	565.6	540.9	565.6	527.9	341.6A	359.6	87.7	22.5	60.1	379.0	339.5	12.2478.7	545.6	345.1	245.1	180.5
48-289	592.2	327.5	397.6	384.9	315.1	103.1	418.5	491.5	563.0	555.7	583.0	544.7	416.6	460.6	88.0	22.7	60.3	390.5	350.5	12.6492.7	561.6	385.8	250.8	188.9
49-287	610.0	337.6	406.6	357.1	321.4	104.6	430.1	502.7	600.3	560.5	600.3	570.3	495.7	513.9	88.1	22.9	60.6	402.6	361.8	13.0408.6	577.3	386.7	226.7	193.4
50-285	627.0	347.6	419.1	364.8	327.8	106.1	441.6	513.5	577.6	584.9	617.6	576.7	441.6	579.1	88.6	23.0	60.8	414.9	379.2	13.3825.1	592.9	377.0	265.7	200.0
51-284	645.7	357.6	429.7	372.5	334.1	107.6	481.1	520.8	593.9	592.6	593.9	559.1	492.6	508.5	89.6	23.2	61.0	422.2	384.5	13.7381.7	608.5	389.0	278.3	216.1
52-282	663.5	367.7	440.2	390.2	340.4	109.1	484.6	534.0	652.2	615.7	652.2	607.5	559.1	590.6	89.6	23.4	61.2	439.6	385.8	14.1585.4	624.1	445.1	312.4	244.4
53-281	681.4	377.7	450.6	387.8	346.0	110.6	476.2	544.1	665.4	628.0	659.4	624.7	475.2	621.5	90.3	23.5	61.4	452.2	408.3	14.5875.0	639.5	411.0	317.9	220.5
54-279	693.3	387.6	461.0	395.5	353.1	112.1	487.7	554.1	685.7	642.1	685.7	640.6	487.7	655.4	90.6	23.7	61.6	465.0	420.3	14.9391.6	685.0	423.4	299.5	193.4
55-278	717.1	397.6	471.3	403.2	359.4	113.6	499.2	563.9	704.0	656.4	699.2	649.2	595.8	620.3	91.8	477.9	432.5	15.3808.5	670.3	435.1	308.0	234.7		
56-276	735.0	407.5	481.5	410.9	365.7	115.1	510.7	575.6	721.3	672.1	710.7	662.9	60.0	24.0	62.0T	491.0	444.9	15.7625.3	688.5	447.0	316.6	241.9		
57-275	752.9	417.3	491.6	420.4	377.2	116.1	522.2	583.1	738.6	684.2	738.6	687.5	512.2	627.5	90.2	24.2	62.5L	504.2	457.4	16.1642.1	701.0	459.0	320.2	282.0
58-273	770.8	427.2	501.9	433.1	385.7	118.1	531.6	593.7	750.0	690.1	755.8	693.5	522.2	676.5	90.2	24.4	63.1	517.5	470.0	16.5559.0	716.2	434.0	334.0	287.3
59-272	788.6	437.0	512.1	445.3	386.8	119.3	545.3	601.9	655.3	718.9	545.3	703.5	690.1	80.6	24.6	63.8	531.1	482.9	16.9578.9	731.4	485.5	344.0	264.3	
60-270	806.3T	446.6	522.1	456.8	395.3	116.9	556.8	611.1	670.5	734.4	556.8	715.9	690.4T	80.7	24.7	64.4L	544.8L	495.8	17.3592.8T	746.6	496.0	355.0	272.0	

LOADING	ONE LANE LIVE LOAD (H20-516-44) (Impact not included)												NEGATIVE MOMENTS (kip foot)														
	POSITIVE MOMENTS (kip foot)												SAMPLE SPAN SHEARS & REACTIONS														
	MOMENTS AT 0.2 OR 0.8 POINTS												MOMO REACTION OR SHEAR AT MIDSPAN														
LOADING	SBM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	FEM	SBM	SBM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM			
TRUCK (T)	SBCTR	# B	@ C	SBCTR	# B	@ C	SBCTR	# B	SBCTR	# B	SBCTR	SBM	SBM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM			
ALTERNATIVE (A)	61.269	824.47	496.6	532.2	868.37	886.1	340.2	866.37	820.2	807.77	738.8	568.37	780.2	81.07	28.07	68.0	889.81	808.0	17.7709.87	781.7	826.81	278.6	13.2301.47	861.3	380.2	61	
LANE (L)	62.267	842.3	495.3	545.2	879.6	857.1	345.4	879.8	839.3	828.0	783.0	765.3	745.4	81.2	26.2	65.3	862.8	835.6	18.8743.7	781.8	824.4	370.7	13.815.6	873.1	385.4	62	
IMPACT RT.	63.266	840.2	476.0	532.2	891.4	892.3	346.6	891.4	842.2	842.0	780.6	591.4	765.6	81.3	26.1	65.3	862.8	835.6	18.8743.7	781.7	824.4	370.6	13.815.6	873.1	385.4	62	
64.265	878.1	485.7	862.1	802.9	594.6	349.6	802.7	847.1	899.5	780.0	689.8	602.8	769.6	81.8	26.8	67.0	801.1	849.6	16.8790.8	806.9	847.3	389.1	14.2304.0	884.7	377.7	64	
65.265	896.0	495.4	872.1	811.4	806.3	352.8	814.4	855.9	876.0	876.6	811.2	614.4	782.6	81.7	26.7	67.6	818.8	885.2	16.3777.8	821.9	860.4	388.7	14.4359.6	889.4	380.5	65	
66.262	913.9	805.1	881.9	625.9	617.7	385.0	825.9	864.6	894.1	806.9	826.6	825.9	795.6	81.8	26.8	68.2	810.2	877.1	19.7784.9	888.8	878.8	401.8	14.7674.8	820.1	388.0	66	
67.260	931.0	814.7	891.6	637.4	629.1	386.3	873.3	911.4	911.4	873.4	901.4	874.6	82.0	26.9	68.8	831.2	820.1811.9	418.1	328.7	15.0689.1	631.8	391.2	477.7	14.8352.6	881.8	393.6	67
68.259	948.8	824.4	891.6	649.0	640.4	381.7	849.0	881.9	920.6	856.8	849.0	821.3	821.1	89.5	26.9	69.5	869.8	805.0	20.8829.0	866.7	800.6	427.9	14.9357.8	709.8	442.6	68	
69.258	967.7	834.0	891.4	650.5	651.8	384.5	860.5	890.4	945.9	872.0	860.5	834.0	845.0	82.3	26.3	70.2	878.0	819.8	20.9846.2	881.5	816.8	437.7	15.0716.7	658.1	401.4	69	
70.256	985.6	849.6	891.2	672.0	683.0	387.4	872.0	868.9	903.2	860.2	903.2	887.0	872.0	846.7	82.4	26.4	70.8	880.2	834.6	21.2883.8	888.4	828.4	448.0	14.9735.6	684.7	406.5	70
71.255	1004.5	853.1	884.4	674	707	884	707	890	873	820	884	819	825	82.5	26.5	71.0	876	849	21.3880	911	842	458	14.8764.8	728	412	71	
72.254	1021.5	863.6	884.1	689	689	885	733	698	887	898	817	889	827	82.7	26.7	72.1	721	684	22.2898	926	857	468	14.9872.7	789	417	72	
73.253	1039.8	872.2	882	680	707	887	724	801	1018	932	707	884	82.8	26.8	72.8	787	679	22.6918	941	871	479	14.9882.3	701	422	73		
74.251	1057.7	882	880	718	705	878	718	732	1032	913	1032	947	718	887	82.9	26.9	73.4	793	694	23.0932	956	885	489	14.9884.9	713	427	74
75.250	1075.8	891	870	720	718	881	730	740	1036	926	1020	920	920	83.0	27.0	74.0	793	710	23.4849	970	800	490	14.9885.8	728	432	75	
76.249	1093.0	901	879	741	750	884	746	741	1087	977	941	922	922	85.2	27.2	74.6	785	726	23.896	986	718	511	14.9886.8	736	437	76	
77.248	1111.1	910	889	753	741	886	758	787	1084	982	984	982	982	87.3	27.3	75.3	801	741	24.2984	1000	730	522	14.9887.8	748	442	77	
78.246	1129.6	920	899	764	762	889	764	765	1101	1007	764	846	85.4	27.4	75.9	816	787	24.61001	1014	748	532	14.9888.8	769	447	78		
79.245	1147.5	938	908	776	763	891	776	778	1119	978	1118	1021	776	889	85.6	27.6	76.6	835	773	25.01018	1028	780	544	14.9889.8	781	452	79
80.244	1165.9	918	787	774	784	877	787	781	1136	989	1136	1038	787	971	83.6	27.6	77.2	881	789	25.41038	1044	778	565	14.9884.8	792	458	80
81.243	1183.6	944	727	789	788	897	789	898	1183	1004	1183	1081	1081	908	85.7	27.7	77.6	886	805	25.81058	1078	822	577	14.9885.8	793	463	81
82.241	1201.6	955	787	810	796	898	810	810	1171	1017	1171	1056	1056	922	83.0	27.8	78.6	885	822	26.31070	1073	808	585	14.9886.8	805	468	82
83.240	1219.8	967	823	807	842	903	822	805	1188	1001	1188	1022	1022	927	87.1	27.9	79.1	893	839	26.71087	1087	822	593	14.9887.8	816	473	83
84.239	1237.7	977	786	813	817	844	813	813	1208	1048	1208	1083	1083	935	89.0	28.0	80.0	885	855	27.1104	1102	838	605	14.9888.8	827	480	84
85.238	1255.6	986	788	845	826	847	845	845	1222	1110	1222	1110	1110	946	84.1	28.1	80.1	886	872	27.21116	1116	884	612	14.9889.8	839	485	85
86.237	1273.8	995	778	855	819	869	855	855	1240	1068	1240	1128	1128	954	84.2	28.2	81.0	886	890	27.31151	1151	870	624	14.9889.8	850	486	86
87.236	1291.7	1016	781	856	816	867	856	856	1287	1081	1287	1073	1073	965	84.3	28.3	81.7	886	895	27.41160	1160	886	870	14.9890.8	862	493	87
88.235	1309.6	1034	879	872	891	814	879	844	1324	1084	1324	1154	1154	967	84.4	28.4	82.3	886	895	28.21174	1174	886	891	14.9891.8	878	498	88
89.234	1328.5	1052	884	881	871	851	881	851	1329	1107	1329	1169	1169	981	84.5	28.5	82.4	886	896	28.41191	1191	886	892	14.9892.8	884	504	89
90.233	1346.7	1073	813	862	827	819	862	862	1347	1097	1347	1120	1120	987	84.6	28.6	82.5	886	896	28.612097	1120	886	893	14.9893.8	892	508	90
IMPACT																											
SPAN IN FT.																											

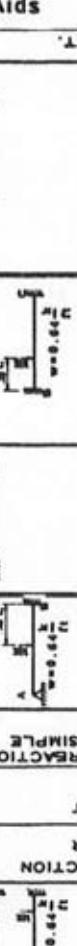


Diagram illustrating loading conditions for one lane live load, showing Alternative (A) and Lane (L) loading scenarios.

ONE LANE LIVE LOAD (H20-516-44)												NEGATIVE MOMENTS (kip feet)																					
POSITIVE MOMENTS (kip feet) (Impact not included)												NEGATIVE MOMENTS (kip feet)																					
LOADING TRUCK (T)	SIMPLE SPAN SHEARS & REACTIONS $\Delta_{\text{END}}$											SIMPLE SPAN SHEARS & REACTIONS $\Delta_{\text{END}}$																					
	FEM @ CTR # 2	FEM @ B	FEM @ C	SBM @ .2L	SBM @ B	FEM @ C	SBM @ .2L	FEM @ B	SBM @ B	FEM @ .6L	SBM @ B	FEM @ CTR # 2	FEM @ B	SBM @ .42L	FEM @ B	SBM @ B	FEM @ .33L	SBM @ B	FEM @ C	SBM @ B	FEM @ C												
91-231	15637	742	823	9147	893	421	9147	867	13267	1132	9147	1103	64.67	20.67	84.2L	107L	978	30.0	122AT	1203	933	584	933	21.5	1032T	907	514	91					
92-230	1380	752	832	925	903	424	925	875	1343	1212	925	1115	64.7	26.7	84.9	1065	986	30.4	1243	1216	970	697	574	22.0	1068	918	519	92					
93-229	1398	761	841	937	914	426	937	893	1361	1158	937	1127	64.8	26.8	85.5	1084	1014	30.6	1260	1232	987	709	595	23.1	1083	929	524	93					
94-228	1416	770	851	946	924	428	946	890	1376	1171	946	1136	64.9	28.9	86.2	1103	1038	31.2	1278	1247	1004	722	597	23.4	1099	941	529	94					
95-227	1434	780	860	960	935	431	960	898	1395	1183	960	1180	64.9	28.9	86.8	1122	1051	31.6	1295	1261	1022	735	608	23.7	1114	952	534	95					
96-226	1452	789	870	972	945	433	972	906	1412	1196	1412	1271	972	29.0	87.4	1142	1070	82.0	1313	1276	1039	748	620	24.1	1130	963	539	96					
97-225	1470	798	879	983	956	435	983	913	1430	1209	1430	1285	983	1174	65.1	29.1	88.1	1161	1089	82.4	1330	1280	1057	760	631	24.4	1145	974	544	97			
98-224	1488	808	888	995	966	438	995	921	1447	1221	1447	1300	995	1185	65.1	29.1	88.7	1181	1108	82.9	1347	1304	1075	774	643	24.7	1161	986	550	98			
99-223	1506	817	898	1006	977	440	1006	929	1464	1234	1464	1314	1006	1197	65.2	29.2	89.4	1200	1127	83.3	1365	1319	1093	787	655	25.0	1376	997	555	99			
100-222	1524	826	907	1018	987	442	1018	936	1482	1247	1482	1329	1018	1209	65.3	29.3	90.0	1220	1146	83.7	1382	1333	1111	800	667	25.3	1392	1008	560	100			
101-221	1542	835	916	1029	998	445	1029	944	1499	1259	1499	1343	1029	1220	65.3	29.3	90.6	1240	1168	84.1	1399	1347	1129	813	679	25.7	1407	1019	565	101			
102-220	1560	845	926	1041	1008	447	1041	951	1516	1272	1516	1357	1041	1232	65.4	29.4	91.8	1261	1186	84.5	1417	1362	1148	827	691	26.0	1223	1030	570	102			
103-219	1578	854	935	1052	1019	449	1052	959	1533	1284	1533	1372	1052	1243	65.5	29.5	91.9	1281	1206	84.9	1434	1376	1166	840	703	26.3	1238	1042	575	103			
104-218	1596	863	945	1064	1029	452	1064	966	1551	1297	1551	1386	1064	1285	65.5	29.5	92.6	1302	1226	85.4	1452	1391	1185	854	716	26.6	1254	1053	580	104			
105-217	1614	873	954	1075	1039	454	1075	974	1568	1310	1568	1401	1075	1266	65.6	29.6	93.2	1322	1246	85.6	1469	1405	1204	860	728	26.9	1269	1064	586	105			
106-216	1632	882	963	1087	1050	456	1087	981	1585	1322	1585	1415	1087	1276	65.7	29.7	93.8	1343	1266	86.2	1487	1419	1223	882	741	27.3	1285	1075	591	106			
107-215	1650	891	973	1098	1060	459	1098	989	1603	1335	1603	1430	1098	1289	65.7	29.7	94.5	1364	1287	86.6	1504	1433	1267	896	753	27.6	1301	1086	596	107			
108-214	1668	900	982	1110	1070	461	1110	996	1620	1347	1620	1444	1110	1301	65.8	29.8	95.1	1386	1307	87.0	1521	1448	1261	910	766	27.9	1316	1097	601	108			
109-213	1686	910	991	1121	1081	463	1121	1003	1637	1360	1637	1458	1121	1312	65.8	29.8	95.8	1407	1326	87.4	1539	1462	1281	924	779	28.2	1332	1109	606	109			
110-213	1704	919	1000	1133	1091	465	1133	1011	1654	1372	1654	1473	1133	1324	65.9	29.9	96.4	1428	1349	87.6	1556	1476	1300	939	792	28.5	1347	1120	611	110			
111-212	1722	928	1010	1144	1101	468	1144	1018	1672	1385	1672	1487	1144	1335	65.9	29.9	97.0	1480	1370	88.2	1574	1491	1320	933	805	28.9	1363	1131	617	111			
112-211	1740	937	1019	1156	1111	470	1156	1026	1689	1397	1689	1501	1156	1346	66.0	30.0	97.7	1472	1391	88.7	1591	1505	1340	968	818	29.2	1379	1142	622	112			
113-210	1757	947	1028	1167	1122	472	1167	1033	1706	1410	1706	1516	1167	1356	66.1	30.1	98.3	1494	1413	89.1	1609	1519	1360	982	832	29.5	1394	1153	627	113			
114-209	1775	956	1038	1179	1132	475	1179	1041	1724	1423	1724	1507	1179	1369	66.1	30.1	99.0	1516	1435	89.5	1626	1533	1380	987	845	29.6	1410	1164	632	114			
115-208	1793	965	1047	1190	1142	477	1190	1048	1741	1435	1741	1544	1190	1381	66.2	30.2	99.6	1518	1456	89.9	1643	1548	1400	1012	859	30.2	1426	1175	637	115			
116-207	1811	974	1056	1202	1152	479	1202	1055	1758	1447	1758	1559	1202	1392	66.2	30.2	100.2	1561	1478	90.3	1661	1562	1421	1027	872	30.5	1441	1186	642	116			
117-207	1829	984	1065	1213	1162	481	1213	1063	1775	1460	1775	1573	1213	1403	66.3	30.3	100.8	1583	1500	90.8	1676	1576	1441	1042	886	30.8	1457	1197	647	117			
118-206	1847	993	1075	1225	1172	484	1225	1070	1793	1472	1793	1587	1225	1414	66.3	30.3	101.5	1606	1528	91.2	1696	1590	1462	1057	900	31.1	1473	1208	653	118			
119-205	1865	1002	1084	1236	1183	485	1236	1077	1810	1485	1810	1591	1236	1426	66.4	30.4	102.2	1639	1549	91.5	1713	1605	1483	1073	914	31.4	1486	1219	659	119			
120-204	1883	1011	1093	1248T	1193	488	1248T	1085	1827T	1492	1827T	1492	1248T	1488	1248T	1086	1648	66.4	30.4	104.7	1647	1598	92.8	1717	1608	1502	1086	928	31.8	1504T	1240	655	120

## ONE LANE LIVE LOAD (H20-516-44)

(Impact not included)

## POSITIVE MOMENTS (kip feet)

LOADING	SIMPLE SPAN SHEARS & REACTIONS												NEGATIVE MOMENTS (kip feet)																	
	A 15' 0"			B 15' 0"			C 15' 0"			A 15' 0"			B 15' 0"			C 15' 0"			A 15' 0"			B 15' 0"								
TRUCK (T)	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM						
ALTERNATIVE (A)	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM						
LANE (L)	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM						
121-203	1901T	1021	1102	1260T	1203	490	1260T	1092	1844T	1310	1260T	1448	66.4T	30.4T	103.4L	1675L	1890	42.4L	1748T	1632	1525L	1104	942	32.1L	1820T	1242	668	121		
122-202	1919	1030	1112	1271	1213	493	1271	1059	1862	1522	1844	1271	1559	66.5	30.5	101.1	1698	1613	62.9	1766	1647	1546	1119	956	32.4L	1555	1253	678	122	
123-202	1937	1038	1121	1283	1223	495	1107	1879	1335	1879	1589	1293	1471	66.5	30.5	101.7	1722	1636	53.3	1783	1661	1560	1135	971	32.7L	1551	1264	679	123	
124-201	1955	1048	1130	1294	1233	497	1284	1114	1896	1657	1673	1294	1482	66.6	30.6	102.1	1746	1660	53.7	1801	1676	1569	1151	986	33.1L	1667	1275	684	124	
125-200	1973	1057	1139	1306	1243	499	1306	1121	1914	1560	1914	1687	1306	1493	66.6	30.6	103.0	1770	1683	54.1	1618T	1690	1611	1167	1000	33.4L	1562	1286	699	125
126-199	1991	1067	1148	1317	1253	502	1317	1126	1921	1572	1931	1701	1517	1804	66.7	30.7	105.6	1794	1707	55.3	1813	1693	1613	1015	984	33.7L	1598	1297	704	126
127-198	2009	1076	1158	1329	1264	504	1329	1136	1948	1584	1948	1716	1529	1815	66.7T	30.7	107.3	1818	1730	56.0	1844	1614	1599	1020	940	34.0L	1614	1306	699	127
128-198	2027	1085	1167	1340	1274	506	1143	1965	1597	1965	1730	1540	1827	67.0L	30.8	107.9	1842	1754	56.4	1860	1635	1590	1139	1044	34.4L	1645	1319	704	128	
129-197	2045	1094	1176	1352	1284	508	1150	1983	1609	1983	1744	1592	1838	67.3	30.8	108.6	1866	1778	56.8	1900	1650	1630	1130	1078	34.7L	1667	1320	710	129	
130-196	2063	1103	1185	1363	1294	511	1363	1157	2000	1622	2000	1756	1363	1849	67.6	30.8	109.2	1891	1802	57.3	1722	1248	1078	35.0	1661	1341	715	130		
131-195	2081	1112	1195	1375	1304	513	1375	1165	2017	1634	2017	1772	1375	1860	67.9	30.9	109.8	1896	1905	57.8	1745	1265	1090	35.3	1677	1352	720	131		
132-195	2099	1122	1204	1386	1314	515	1386	1172	2035	1647	2035	1805	1386	1871	68.2	30.9	110.5	1941	1951	58.2	1767	1281	1105	35.7	1693	1362	728	132		
133-194	2117	1131	1213	1396	1324	517	1398	1179	2052	1659	2052	1801	1398	1882	68.6	30.9	111.1	1956	1976	58.6	1780	1298	1121	36.0	1708	1374	730	133		
134-193	2135	1140	1222	1409	1334	520	1409	1206	2069	1671	2069	1815	1409	1993	68.9	31.0	112.4	2017	1926	59.1	1813	1315	1132	36.3	1724	1385	736	134		
135-192	2153	1149	1231	1421	1344	522	1421	1194	2086	1694	2086	1829	1421	1905	69.2	31.0	113.0	2042	1951	59.5	1836	1332	1142	36.6	1740	1396	741	135		
136-190	2207	1177	1259	1455	1373	529	1455	1215	2138	1872	2138	1752	1456	1638	70.2	31.1	114.3	2094	2002	60.0	1906	1364	1200	37.6	1787	1429	756	136		
137-189	2225	1186	1268	1467	1383	531	1467	1223	2156	1886	2156	1769	1467	1649	70.5	31.2	115.0	2120	2027	60.5	1920	1401	1216	38.0	1803	1440	762	137		
140-189	2243	1195	1277	1476	1393	533	1476	1230	2173	1746	2173	1900	1476	1660	70.8	31.2	115.6	2146	2023	61.0	1934	1419	1222	38.3	1819	1450	767	140		
141-189	2261	1204	1287	1490	1403	535	1490	1237	2190	1768	2190	1914	1490	1671	71.1	31.2	116.2	2172	2078	61.5	1978	1436	1248	38.6	1834	1461	772	141		
142-187	2279	1213	1296	1501	1413	538	1501	1244	2207	1770	2207	1920	1501	1682	71.4	31.3	116.9	2199	2105	62.0	2002	1454	1265	38.9	1850	1472	777	142		
143-187	2287	1222	1305	1513	1423	540	1513	1251	2225	1783	2225	1943	1513	1693	71.8	31.3	117.5	2225	2131	62.5	2026	1472	1281	39.3	1866	1483	783	143		
144-186	2315	1232	1314	1524	1433	542	1524	1259	2242	1795	2242	1957	1524	1704	72.1	31.3	118.2	2252	2158	63.0	2051	1490	1298	39.6	1882	1494	787	144		
145-185	2333	1241	1323	1536	1443	544	1536	1266	2259	1807	2259	1971	1536	1715	72.4	31.4	118.8	2279	2184	63.5	2075	1508	1315	39.8	1895	1507	797	145		
146-185	2351	1250	1332	1546	1453	547	1546	1273	2276	1820	2276	1988	1546	1726	72.7	31.4	119.4	2306	2211	64.0	2100	1526	1322	39.8	1914	1461	772	146		
147-184	2369	1259	1342	1559	1463	549	1559	1280	2294	1832	2294	1999	1559	1737	73.0	31.4	120.1	2334	2238	64.5	2125	1544	1348	39.9	1930	1472	777	147		
148-183	2387	1268	1351	1571	1472	551	1571	1287	2311	1844	2311	2013	1571	1748	73.4	31.5	120.7	2361	2265	65.0	2150	1563	1366	39.9	1949	1483	783	148		
149-182	2405	1277	1360	1582	1482	553	1582	1294	2328	1857	2328	2027	1582	1759	73.7	31.5	121.4	2389	2292	65.5	2175	1581	1363	39.9	1964	1494	787	149		
150-182	2423	1286	1369	1594	1492	556	1594	1302	2346	1869	2346	2041	1594	1780	74.0	31.5	122.0	2416L	2320	66.0	2200L	1600	1400	40.0	1984	1507	797	150		

IMPACT IN SPAN	ONE LANE LIVE LOAD (H20-S16-44)												NEGATIVE MOMENTS (kip feet)												
	POSITIVE MOMENTS (kip feet)												IMPACT not included												
	LOADING						SIMPLE SPAN SHEARS & REACTIONS (kip)						CENTRAL REACTION SPANS						SIMPLE SPAN SHEARS & REACTIONS (kip)						
SPAN	FEM @ CTR	FEM @ B	FEM @ C	SBM @ .2L	SBM @ B	FEM @ .2L	SBM @ B	FEM @ .4L	SBM @ B	FEM @ .6L	SBM @ B	FEM @ .8L	SBM @ B	FEM @ .42L	SBM @ B	FEM @ .33L	SBM @ B	FEM @ C	SBM @ B	FEM @ C	SBM @ B	FEM @ C	SBM @ B	FEM @ C	
TRUCK (T)	151.161	1441.17	120.6	1378	1502	558	1605T	1309	2363T	1681	2363T	1781	1605T	1781	31.8T	122.6	2344L	2347	2228L	1619	1417	151	151	151	
ALTERNATIVE (A)	152.181	2459	1305	1387	1617	1512	560	1617	1316	2360	1694	2380	2070	1617	1792	74.3L	123.3	2472	2375	2251	1638	1435	152	152	152
LANE (L)	153.190	2477	1314	1387	1626	1522	562	1626	1323	2397	1696	2397	2044	1626	1803	75.0	123.9	2500	2403	2277	1656	1442	153	153	153
IMPACT	154.179	2495	1323	1406	1640	1531	564	1640	1330	2415	1918	2415	2088	1640	1814	76.3	124.6	2529	2491	2102	1676	1470	154	154	154
IMPACT IN SPAN	155.179	2513	1332	1418	1651	1541	567	1651	1337	2432T	1931	2432	2112	1651	1825	75.6	125.2	2557	2459	2128	1695	1486	155	155	155
IMPACT	156.178	2531	1341	1424	1663	1551	569	1663	1344	2433L	2419	2433T	2126	1663	1835	75.9	125.7	2586	2487	2153	1714	1506	156	156	156
IMPACT	157.177	2548	1350	1433	1674	1561	571	1674	1352	2457	2571	2447	2571L	1674	1846	76.2	126.7	2618	2516	2173	1733	1524	157	157	157
IMPACT	158.177	2566	1360	1442	1686	1571	573	1686	1359	2600	2476	2600	2553	1686	1857	76.6	127.7	2644	2544	2107	1753	1542	158	158	158
IMPACT	159.176	2584	1359	1451	1697	1560	576	1697	1365	2628	2505	2628	2572	1697	1866	76.9	128.6	2673	2573	2134	1772	1560	159	159	159
IMPACT	160.175	2602	1378	1461	1709	1690	578	1709	1373	2657	2552	2657	2601	1709	1879	77.2	129.6	2702	2602	2160	1792	1579	160	160	160
IMPACT	161.176	2620	1387	1487	1720	1690	580	1720	1380	2666	2561	2666	2630	1720	1890	77.6	129.8	2732	2631	2187	1812	1597	161	161	161
IMPACT	162.174	2638	1396	1479	1732	1732	582	1732	1397	2715	2589	2715	2659	1732	1901	77.8	129.7	2761	2661	2154	1832	1616	162	162	162
IMPACT	163.174	2656	1405	1488	1745	1619	585	1745	1394	2758	2758	2758	2659	1745	1912	78.2	130.3	2791	2690	2184	1852	1634	163	163	163
IMPACT	164.173	2674T	1414	1497	1755	1629	587	1755	1401	2774	2648	2774	2718	1755	1923	78.5	131.0	2821	2720	2269	1872	1653	164	164	164
IMPACT	165.172	2692L	1423	1623	1766	1639	589	1699L	1463	2804	2677	2804	2748	1766	1933	79.0	131.6	2851	2750	2296	1892	1672	165	165	165
IMPACT	166.172	2695L	1433	1643	1778	1649	591	1669	1491	2833	2708	2833	2776	1778	1944	79.1	132.2	2881	2780	2324	1912	1691	166	166	166
IMPACT	167.171	2695	1438	1643	1789	1659	594	1699	1520	2863	2736	2863	2808	1789	1955	79.4	132.0	2912	2810	2351	1935	1710	167	167	167
IMPACT	168.171	2614	1653	1653	1801	1656	596	1729	2548	2833	2893	2893	1801	1966	79.8	132.0	2942	2840	2379	1933	1729	168	168	168	
IMPACT	169.170	2645	1664	1612	1668	1658	598	1749	2557	2794	2796	2849	1812	1977	80.1	132.0	2973	2870	2407	1974	1749	169	169	169	
IMPACT	170.169	2677	1624	1624	1658	1600	1959	2606	2934	2826	2934	2900	1824	1966	80.4	132.0	3004	2901	2735	1995	1768	170	170	170	
IMPACT	171.169	3109	1644	1644	1636	1697	602	1950	2635	2864	2864	2864	1950	1986	1999	80.7	132.1	3035	2932	2651	1951	1710	171	171	171
IMPACT	172.166	3141	1685	1685	1647	1707	608	2010	2664	3018	2887	3018	2961	1647	2009	81.0	132.1	3066	2963	2792	2036	1867	172	172	172
IMPACT	173.165	3173	1693	1693	1658	1717	616	2014	2672	3171	3042	3171	3118	1905	2063	81.6	132.2	3224	3193	2936	2143	1907	173	173	173
IMPACT	174.165	3205	2006	1612	1670	1726	609	2051	2723	3077	2848	3077	3023	1870	2031	81.7	132.1	3129	3025	2849	2079	1847	174	174	174
IMPACT	175.167	3225	2027	1652	1726	611	2022	2752	3108	2978	3108	3058	1882	2042	82.0	132.2	3161	3056	2876	2100	1867	175	175	175	
IMPACT	176.166	3270	2048	1693	1746	614	2033	2782	3139	3056	3056	3056	1893	2083	82.3	132.2	3193	3068	2907	2121	1867	176	176	176	
IMPACT	177.166	3293	2069	1695	1755	616	2048	2812	3171	3061	3061	3061	1905	2093	82.6	132.2	3224	3191	2936	2143	1907	177	177	177	
IMPACT	178.166	3316	2080	1656	1758	616	2058	2842	3120	3072	3072	3072	1916	2074	83.0	132.2	3257	3181	2965	2144	1927	178	178	178	
IMPACT	179.164	3269	2112	1626	1772	620	2056	2956	3224	3109	3224	3109	2068	83.5	132.2	3269	3183	2994	2166	1948	179	179	179		
IMPACT	180.164	3402L	2113	1635	1784	623	2177L	2903	3266L	3186	3266L	3214	1939T	2096	83.6L	132.7T	3321L	3216	3024L	2120	1948	160	160	160	

LOADING TRUCK (T)	ONE LANE LIVE LOAD (H20-516-44) (Impact not included)												NEGATIVE MOMENTS (kip feet)												
	POSITIVE MOMENTS (kip feet)						SIMPLE SPAN SHEARS & REACTIONS						CENTRIFUGAL SIMPLIFIED SPANS						CENTRIFUGAL SIMPLIFIED SPANS						
IMPACT FACT. F.T.	ALTERNATIVE (A)		LANE (L)		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		MOMENTS AT 0.2 OR 0.8 POINTS		
	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	
181.163	3485L	2185	1981T	1794	625	2189L	2934	5288L	3168	3246	1981T	2107	83.9L	52.9T	141.8L	3954L	3248	3084L	2230	1889	181	181	2230	1889	
182.163	3469	2176	1962	1804	627	2220	2984	5310	3200	3350	3279	1962	2117	84.2	32.5	142.8	3987	3280	3083	2282	2009	182	182	2282	2009
183.162	3503	2188	1986	1974	1813	629	2242	2986	3353	3235	3353	1974	2128	84.6	52.9	143.1	3420	3313	3113	2274	2030	183	183	2274	2030
184.162	3538	2220	1985	1985	1823	2283	3026	3385	3265	3344	3219	1985	2139	84.9	52.5	143.5	3483	3346	3144	2296	2051	184	184	2296	2051
185.161	3571	2242	1997	1893	634	2285	3088	3428	3237	3428	3377	1897	2180	85.2	32.4	144.4	3466	3379	3174	2318	2072	185	185	2318	2072
186.161	3605	2284	2008	1842	636	2307	3089	3440	3390	3440	3410	2008	2160	85.5	52.4	148.0	3810	3412	3204	2341	2093	186	186	2341	2093
187.160	3639	2286	2020	1852	636	2329	3121	3483	3393	3493	3444	2020	2171	85.6	32.4	148.7	3653	3440	3236	2364	2114	187	187	2364	2114
188.160	3674	2308	2031	1852	641	2351	3152	3527	3386	3527	3577	2031	2182	86.2	32.4	146.6	3986	3479	3265	2386	2136	188	188	2386	2136
189.159	3708	2330	2043	1871	643	2373	3184	3560	3429	3560	3511	2043	2183	86.5	52.4	147.0	3820	3412	3296	2408	2157	189	189	2408	2157
190.159	3743	2353	2054	1891	645	2396	3216	3593	3463	3593	3545	2084	2203	86.8	52.5	147.6	3654	3546	3327	2432	2179	190	190	2432	2179
191.158	3778	2375	2065	1891	647	2416	3249	3627	3498	3627	3679	2086	2214	87.1	52.5	148.2	3688	3590	3386	2485	2200	191	191	2485	2200
192.158	3813	2398	2077	1900	650	2440	3281	3651	3520	3651	3613	2077	2226	87.4	32.6	148.9	3723	3614	3389	2476	2222	192	192	2476	2222
193.157	3848	2421	2089	1910	652	2463	3319	3694	3564	3694	3647	2089	2236	87.6	32.5	149.5	3757	3648	3421	2501	2244	193	193	2501	2244
194.157	3884	2444	2100	1945	654	2486	3346	3729	3588	3729	3681	2100	2246	86.1	32.5	150.2	3792	3683	3462	2525	2266	194	194	2525	2266
195.156	3920	2467	2112	1929	656	2506	3378	3763	3632	3763	3716	2112	2287	86.4	32.6	150.8	3627	3717	3484	2548	2286	195	195	2548	2286
196.156	3955	2490	2124	1939	656	2531	3412	3797	3666	3797	3751	2124	2268	86.7	32.6	151.4	3861	3752	3516	2572	2310	196	196	2572	2310
197.155	3991	2513	2135	1948	661	2554	3446	3852	3700	3852	3786	2135	2279	86.0	32.6	152.1	3897	3787	3548	2695	2332	197	197	2695	2332
198.155	4027	2536	2147	1958	663	2577	3478	3886	3728	3886	3821	2147	2289	86.4	32.6	152.7	3922	3822	3580	2618	2358	198	198	2618	2358
199.154	4064	2560	2204	2005	665	2601	3512	3901	3770	3901	3856	2056	2300	86.7	32.6	153.4	3987	3887	3612	2643	2377	199	199	2643	2377
200.154	4100	2583	2170	1977	667	2626	3546	3936	3806	3936	3896	2170	2311	90.0	32.6	154.0	4003	3893	3644	2667	2400	200	200	2667	2400
201.153	4137	2607	2181	1987	670	2647	3579	3971	3840	3971	3922	2181	2321	90.3	32.7	154.6	4036	3926	3677	2691	2423	201	201	2691	2423
202.153	4173	2631	2193	1996	672	2671	3613	4006	3878	4006	3962	2193	2332	90.6	32.7	155.3	4074	3964	3710	2718	2446	202	202	2718	2446
203.152	4210	2655	2216	2015	674	2698	3648	4042	3911	4042	3986	2204	2343	91.0	32.7	155.9	4110	4000	3742	2738	2468	203	203	2738	2468
204.152	4247	2679	2216	2015	676	2716	3682	4077	3948	4077	4034	2216	2384	91.3	32.7	156.6	4147	4034	3775	2764	2492	204	204	2764	2492
205.152	4285	2703	2227	2026	678	2742	3716	4113	3982	4113	4070	2227	2384	91.6	32.7	157.3	4185	4072	3806	2786	2515	205	205	2786	2515
206.151	4322	2727	2239	2034	681	2766	3751	4149	4018	4149	4107	2239	2376	91.9	32.7	157.8	4218	4108	3842	2813	2539	206	206	2813	2539
207.151	4359	2751	2250	2044	683	2790	3786	4165	4084	4165	4143	2260	2386	92.3	32.8	158.5	4256	4148	3875	2857	2561	207	207	2857	2561
208.150	4397	2776	2262	2054	685	2814	4021	4221	4160	4221	4143	2286	2396	92.6	32.8	159.1	4293	4182	3909	2882	2608	208	208	2882	2608
209.150	4435	2800	2273	2063	688	2838	4048	4258	4128	4258	4217	2273	2407	92.9	32.8	159.8	4350	4218	3942	2887	2609	209	209	2887	2609
210.149	4473L	2824	2284	2073	690	2861	4284L	4482	4324L	4482	4384L	2287	2418	93.2L	32.8	160.4L	4397L	4285	3976L	2892	2632	210	210	2892	2632

SPAN IN FT.

SPAN IN FT.&lt;/

ONE LANE LIVE LOAD (H20-516-44)												NEGATIVE MOMENTS (kip foot)												
LOADING	POSITIVE MOMENTS (kip foot)												NEGATIVE MOMENTS (kip foot)											
	IMPACT IN FT.			IMPCTR & CTR			FEM FEM			SBM SBM			FEM FEM			SBM SBM			FEM FEM			SBM SBM		
TRUCK (T)																								
ALTERNATIVE (A)																								
LANE (L)																								
SPAN IN FT.	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	
211.148	48111L	2849	2849	22887	2062	692	2067L	5926	4313L	4200	4311L	4221	22887	2428	91.6L	91.6	161.0L	1404L	4228	4010L	2857	2458	5111	2112
212.140	48560	2074	2074	2308	2022	694	2812	3982	4237	4369	4326	2808	4238	4349	93.6	33.0	161.7	4442	4330	4044	2892	2450	5111	2112
213.148	48866	2699	2699	2319	2101	697	2936	3989	4204	4274	4204	2404	4286	2319	94.2	52.0	162.3	4457	4276	2888	2704	5111	2112	
214.147	48277	2324	2324	2331	2111	698	2861	4033	4442	4311	4442	4403	2331	2460	4364	52.8	163.0	4517	4408	4113	3013	2726	5114	2114
215.147	46666	2949	2949	2542	2120	701	2885	4070	4479	4348	4479	4441	2342	2471	484.0	32.0	163.6	4443	4147	3059	2732	5118	2118	
216.147	47074	2974	2974	2384	2130	703	3011	4106	4816	4816	4779	2954	2482	485.1	32.0	164.2	4593	4481	4182	3064	2776	5118	2118	
217.146	47444	3000	3000	2385	2140	704	3036	4142	4854	4423	4834	4817	2985	2492	95.4	52.0	164.9	4651	4519	4117	3090	2801	5118	2118
218.146	47912	3025	3025	2377	2149	708	3091	4179	4892	4461	4852	4585	2377	2503	21.8	21.8	165.5	4588	4587	4281	3116	2824	5118	2118
219.148	48222	3051	3051	2388	2189	710	3096	4215	4929	4429	4954	2368	2814	95.1	32.0	165.2	4708	4594	4287	3162	2810	5118	2118	
220.148	48692	3076	3076	2400	2186	712	3112	4282	4949	4837	4658	4039	2400T	2824	96.4	32.0	166.0	4727	4624	4322	3198	2828	5120	2119
221.148	48902	3102	3102	2412	2178	716	3137	4269	4706	4576	4706	4671	3137L	4480	96.7	33.0	167.4	4788	4673	4357	3184	2800	5121	2121
222.148	49442	3139	3139	2423	2187	717	3163	4236	4764	4614	4744	4710	3163	4818	97.0	33.0	168.1	4828	4712	4393	3220	2834	5122	2122
223.144	49854	3154	3154	2435	2197	719	3188	4284	4783	4683	4748	3168	4856	97.4	33.0	169.7	4884	4751	4428	3247	2850	5123	2123	
224.148	50228	3180	3180	2446	2206	721	3214	4401	4821	4601	4769	3214	4956	97.7	33.0	170.4	4932	4790	4664	3273	2878	5124	2124	
225.148	50593	3206	3206	2460	2248	724	3240	4439	4860	4730	4820	4820	4933	98.0	33.0	171.0	4982	4829	4900	3293	2899	5125	2125	
226.142	51013	3233	3233	2469	2238	726	3266	4477	4989	4770	4989	4807	3266	4972	98.4	33.0	170.4	4983	4889	4396	3327	3028	5126	2126
227.142	51144	3259	3259	2481	2235	728	3292	4515	4938	4809	4938	4907	3222	4711	98.6	33.0	171.3	5022	4909	4372	3344	3041	5127	2127
228.142	51186	3285	3285	2493	2244	730	3318	4553	4977	4849	4977	4947	3214	4750	97.0	33.0	172.4	5062	4949	4446	3373	3060	5128	2128
229.141	51206	3213	3213	2504	2254	732	3344	4591	5017	4987	5044	4969	97.3	33.0	173.0	5102	4989	4546	3406	3076	5129	2129		
230.141	51267	3239	3239	2515	2258	733	3371	4629	5056	4928	5056	5027	3371	4928	98.6	33.0	173.2	5142	5029	4602	3435	3126	5130	2130
231.140	53006	3266	3266	2527	2273	737	3397	4668	5096	4887	5088	5067	3397	4968	99.0	33.0	173.6	5182	5069	4719	3462	3144	5131	2131
232.140	53050	3293	3293	2538	2282	739	3424	4707	5136	5007	5136	5126	3424	4907	100.2	33.0	174.0	5223	5110	4798	3489	3180	5132	2132
233.140	53052	3420	3420	2559	230	751	3459	4903	5176	5048	5146	5146	5150	5150	97.1	33.0	174.6	5254	5150	4793	3517	3206	5133	2133
234.139	54457	3437	3437	2561	2301	744	3477	4785	5121	5068	5121	5126	5147	4947	100.8	33.0	175.2	5428	5319	4890	3544	3231	5134	2134
235.139	54579	3474	3474	2578	2311	746	3504	4824	5156	5129	5220	5220	5156	5037	101.2	33.0	176.4	5346	5232	4867	3572	3239	5135	2135
236.139	54806	3501	3501	2584	2320	748	3531	4863	5197	5169	5227	5171	5271	5067	101.6	33.0	177.0	5387	5279	4905	3600	3245	5136	2136
237.139	54960	3529	3529	2590	2320	751	3558	4939	5203	5139	5248	5248	5146	5098	101.8	33.0	177.7	5428	5319	4793	3628	3252	5137	2137
238.139	54943	3557	3557	2607	2335	753	3586	4971	5241	5178	5278	5278	5184	5189	102.2	33.0	178.4	5436	5320	4890	3644	3253	5138	2138
239.137	54945	3564	3564	2618	2345	754	3613	4983	5251	5192	5292	5292	5181	5181	102.6	33.0	179.0	5436	5319	4892	3654	3254	5139	2139
240.137	54946	3574	3574	2675	2347	754	3640	5251	5354	5401	5461	5461	5461	5461	102.8	33.0	179.6	5519	5405	5019	3664	3255	5140	2140
241.137	55112	3612	3612	2690T	2355	757	3640L	5023	5447	5461	5461	5461	5461	5461	102.8	33.0	179.6	5519	5419	5046L	3712	3256	5141	2141

IMPACT IN FT.	LOADING	POSITIVE MOMENTS (kip feet)										NEGATIVE MOMENTS (kip feet)											
		IMPACT not included					IMPACT included					IMPACT not included					IMPACT included						
SPAN IN FT.	TRUCK (T)	SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)		SIMPLE SPAN SHEARS & REACTIONS (Total)					
		FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM			
241.135 5751L	3540	3540	26247	2368	760	5688L	5063	5575	5020L	8479	5668L	5271	105.1L	53.2T	180.2L	5698L	5461	5094L	5740	5419	241		
242.136 5774L	3568	3568	2685	2377	762	5698	5103	5543	5417	8443	5682L	6312	105.4	53.2	180.9	5637	5423	5133	5769	5446	242		
243.136 5817L	3596	3596	2685	2387	764	5723	5144	5585	5489	8585	5664	5723	5354	101.6	53.2	181.5	5678	5466	5171	5797	5473	243	
244.136 5881L	3724	3724	2678	2398	766	4751	5186	5626	5801	8626	5781	5395	104.1	53.2	182.2	5722	5608	5210	5826	5501	244		
245.135 5905L	3753	3753	2686	2406	769	5779	5225	5656	5543	8666	5649	5779	5437	104.4	53.2	182.8	5784	5651	5248	5885	5526	245	
246.135 5948L	3781	3781	2700	2415	771	5807	5266	5710	5585	8710	5891	5807	5479	104.7	53.3	183.4	5807	5653	5287	5894	5556	246	
247.134 5992L	3810	3810	2711	2426	773	5835	5295	5735	5753	8734	5935	5921	105.0	53.3	184.1	5880	5726	5326	5912	5593	247		
248.134 6036L	3838	3838	2723	2434	776	5863	5349	5793	5770	8778	5977	5853	105.4	53.3	184.7	5893	5779	5366	5942	5611	248		
249.134 6051L	3857	3857	2734	2444	778	5892	5350	5837	5713	8837	5921	5892	8805	105.7	53.3	185.4	5936	5823	5408	5971	5598	249	
250.133 6126L	3896	3896	2746	2453	780	5920	5432	5890	5756	8860	5984	5920	8548	106.0	53.3	186.0	5980	5865	5444	4000	5887	250	
251.133 6170L	3925	3925	2757	2463	782	5949	5474	5923	5823	8908	5949	5981	106.3	53.3	186.6	6023	5910	5484	4029	3898	251		
252.133 6214L	3954	3954	2769	2472	785	5977	5516	5896	5842	8942	5981	5977	5794	106.6	53.3	187.3	6067	5953	5524	4059	3728	252	
253.132 6252L	3982	3982	4000L	3987	786	4006	5558	5629	5809	5885	6009	5885	4906	5776	107.0	53.3	187.8	6111	5927	5604	4116	3780	253
254.132 6304L	4012	4012	4028	3987	788	4038	5600	5852	5928	6028	6121	5820	4938	5820	107.3	53.3	188.0	6135	6041	5644	4148	3806	254
255.132 6350L	4042	4042	4064	4056	790	4068	5618	4064	5643	6096	5973	6096	4083	5863	107.6	53.4L	189.2	6192	6068	5647	4159	3882	255
256.131 6395L	4071	4071	4093	4085	792	4104	5648	4103	5674	6123	6139	6117	4098	5906	107.9	53.5	189.8	6243	6130	5684	4176	3837	256
257.131 6440L	4101	4101	4122	4115	795	4132	5728	6183	6061	6163	6172	6122	5950	108.3	53.6	190.8	6288	6174	5728	4208	3865	257	
258.131 6486L	4131	4131	4151	4145	798	4169	5711	6227	6105	6227	6217	6181	5984	108.6	53.6	191.1	6332	6219	5765	4238	3894	258	
259.130 6532L	4150	4150	4180	4174	800	4224	5747	6190	5814	6271	6150	6252	6190	6038	109.9	53.7	191.6	6377	6254	5806	4266	3923	259
260.130 6573L	4180	4180	4210	4204	803	4275	5785	6115	6194	6318	6307	6210	6062	109.3	53.8	192.4	6422	6309	5847	4259	3982	260	
261.130 6624L	4220	4220	4259	4241	808	4328	5890	6239	6382	6428	6126	6269	6171	109.8	53.8	193.0	6447	6345	5884	4276	3981	261	
262.129 6671L	4251	4251	4269	4266	8112	4269	5944	6404	6284	6387	6268	6171	6098	109.8	54.0	193.7	6512	6409	5928	4306	3965	262	
263.129 6717L	4281	4281	4299	4298	8140	4309	5988	6446	6329	6448	6442	6289	6218	110.2	54.0	194.3	6558	6446	5971	4346	3993	263	
264.129 6764L	4311	4311	4329	4323	8168	4332	6032	6493	6374	6493	6468	6329	6260	110.5	54.1	195.0	6603	6490	6012	4421	4059	264	
265.128 6811L	4342	4342	4382	4389	8198	4388	6076	6419	6359	6534	6389	6305	110.8	54.2	195.6	6649	6535	6054	4452	4079	265		
266.128 6852L	4372	4372	4399	4397	8227	4409	6120	6893	6485	6863	6890	6398	111.1	54.3	196.3	6695	6582	6086	4483	4128	266		
267.128 6903L	4403	4403	4419	4417	8266	4419	6164	6826	6511	6826	6419	6395	111.4	54.4	196.9	6741	6628	6137	4514	4158	267		
268.127 6952L	4434	4434	4449	4448	8301	4428	6214	6874	6672	6861	6411	6787	111.6	54.4	197.5	6845	6734	6173	4545	4158	268		
269.127 6989L	4465	4465	4490	4472	8344	4460	6254	6918	6802	6718	6490	6696	112.1	54.5	198.2	6877	6716	6222	4577	4168	269		
270.127 7047L	4485	4485	4510	4510	8414	4510L	6229	6785L	6646	6785L	6632	6710L	112.4L	54.6L	198.8L	6890L	6767	6254L	4608	4248	270		

LOADING	TRUCK (T)	POSITIVE MOMENTS (kip feet)										NEGATIVE MOMENTS (kip feet)									
		HINGE AT 1/5 POINT (0.200L)					HINGE AT 1/3 POINT (0.345L)					HINGE AT 2/3 POINT (0.64K/Ft)					HINGE AT 3/5 POINT (0.8L)				
SPAN	IMPACT	MAXIMUM POSITIVE MOMENTS	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM
30	300	15.6	309A	95A	214A	274A	197A	125A	211A	44A	208A	248A	62A	151L	55L	187L	71L	133L	8.5	266A	71A
31	300	16.2	321	99	221	284	204	128	219	45	215	258	63	158	58	196	75	140	8.8	276	73
32	300	16.7	333	102	228	294	212	131	227	45	222	267	64	165	62	204	79	146	9.2	287	76
33	300	17.3	345	106	236	304	220	134	234	46	229	277	64	171	66	213	83	152	9.5	298A	78A
34	300	17.8	357	110	243	314	227	137	242	47	235	286	63	178	70	222	87	159	6.43	249T	152T
35	300	18.4	369	113	250	324	235	140	250	47	242	296	65	185	74	231	91	165	6.68	261	156
36	300	18.9	381	117	257	334A	243A	143A	257	48	249	305	66	193	76	240	96	172	6.95	274	163
37	300	19.5	392	120	264	363T	239T	255T	265	49	255	315A	67A	200	82	249	100	179	7.21	287	170
38	300	20.0	404	124	271	376	248	263	273	50	262	326T	214T	207	86	259	105	185	7.49	300	177
39	300	20.6	416	128	279	390	257	270	280	50	269	338	222	214	91	269	110	192	7.76	314	184
40	300	21.1	428	132	286	403	267	277	288	51	275	351	229	222	95	278	115	200	8.04	327	191
41	300	21.6	440	135	293	418	276	289	296	52	282	363	236	230	100	288	120	207	8.32	341	199
42	299	22.2	452	139	300	433	265	300	303	53	289	376	243	237	104	298	125	214	8.61	355	206
43	298	22.7	463	142	307	449	296	311	311	53	295	389	249	245	109	309	130	222	8.90	369	213
44	296	23.3	475	146	314	464	306	322	319	54	302	402	255	253	114	319	135	229	9.24	384	221
45	294	23.8	487	149	321	479	316	332	326	55	309	415	260	261	119	329	140	237	9.54	399	228
46	292	24.4	499A	153A	328A	494	326	342	334	56	315	428	265	269	124	340	146	244	8.74	382	227
47	291	23.0	509T	242T	408T	509	336	352	342	56	322	441	270	278	130	351	151	252	9.02	396	228
48	289	25.1	574	223	421	524	346	361	349	57	328	454	275	286	135	362	157	260	9.35	411	231
49	287	25.6	592	228	434	539	357	370	357	58	335	468	280	294	140	373	163	268	9.65	426	233
50	286	26.2	610	232	448	554	367	379	365	59	341	481	284	303	146	384	168	277	9.95	440	235
51	284	26.7	628	238	461	570	378	388	372	59	348	494	288	312	152	396	174	285	10.25	455	237
52	282	27.2	646	243	474	585	388	396	380	60	354	508	292	320	157	407	180	293	10.56	469	239
53	281	27.8	654	248	487	600	399	404	388	61	361	521	295	329	163	419	187	302	10.85	484	242
54	279	28.3	662	254	500	615	409	412	395	62	367	535	299	338	169	431	193	310	11.18	499	244
55	278	28.8	700	259	513	630	420	420	403	63	374	548	302	347	176	442	199	319	11.49	514	247
56	276	29.3	718	265	525	645	431	427	411	63	380	562	306	356	182	455	206	328	11.76	528	249
57	275	29.9	735	269	538	660	441	435	419	64	387	576	309	365	188	467	212	337	12.07	543	251
58	273	30.4	753	274	550	675	442	442	426	65	393	589	312	375	195	479	219	346	12.41	559	253
59	272	31.0	771T	280T	563T	690T	449T	449T	449A	66A	400A	603T	315T	384L	201L	422L	226L	355L	12.74	574T	255T

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/5 POINT (0.200L)

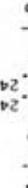
KAB=0.231

CBA=4.00

KBA=3.692

## POSITIVE MOMENTS (kip feet)

LOADING	GROSS WEIGHT	MAXIMUM POSITIVE MOMENTS						NEGATIVE MOMENTS (kip feet)					
		0.3L											
TRUCK (T)		A 0.64 K W: 0.64 K Ft											
ALTERNATIVE(A)		A 0.64 K W: 0.64 K Ft											
LANE (L)		A 0.64 K W: 0.64 K Ft											
MAXIMUM POSITIVE MOMENTS		MOMENTS AT 0.3 POINT						MOMENTS AT 0.8 POINT					
GROSS WEIGHT	PT	0.3L											
50	270	31.5	789T	285T	755T	700T	474T	456T	557T	240T	576T	617T	317T
51	269	32.0	807	291	587	721	485	463	588	240	589	630	320
52	267	32.6	824	295	600	736	496	470	580	241	601	644	323
53	266	33.1	842	301	612	751	507	477	591	241	613	658	325
54	265	33.7	860	306	624	766	518	483	603	242	626	672	328
55	263	34.2	876	312	636	781	529	490	614	243	636	699	330
56	262	34.7	896	317	648	796	540	496	626	243	650	700	330
57	260	35.2	914	323	656	811	551	502	637	244	662	713	335
58	259	35.8	931	327	571	827	562	509	649	244	674	727	337
59	258	36.4	949	333	633	842	573	515	660	245	686	741	339
60	256	36.9	957	336	648	857	584	521	672	246	698	756	341
61	255	37.4	965	344	707	872	595	527	684	246	706	764	343
62	254	37.9	1003	349	718	887	606	533	696	247	722	780	345
63	253	38.5	1021	355	730	902	617	539	707	247	739	796	347
64	251	39.1	1038	359	742	917	628	544	718	248	748	810	349
65	250	39.6	1056	365	753	932	639	550	730	249	757	824	351
66	249	40.1	1074	371	765	948	651	566	741	250	768	833	356
67	248	40.7	1092	376	776	963	662	582	753	250	772	847	358
68	246	41.2	1110	382	788	978	673	597	764	251	791	866	360
69	245	41.7	1128	387	799	993	684	573	776	252	803	880	365
70	250	39.6	1056	365	753	932	639	550	730	249	757	824	351
71	255	37.4	965	344	707	872	595	527	684	246	706	764	343
72	254	37.9	1003	349	718	887	606	533	696	247	722	780	345
73	253	38.5	1021	355	730	902	617	539	707	247	739	796	347
74	251	39.1	1038	359	742	917	628	544	718	248	748	810	349
75	250	39.6	1056	365	753	932	639	550	730	249	757	824	351
76	249	40.1	1074	371	765	948	651	566	741	250	768	833	356
77	248	40.7	1092	376	776	963	662	582	753	250	772	847	358
78	246	41.2	1110	382	788	978	673	597	764	251	791	866	360
79	245	41.7	1128	387	799	993	684	573	776	252	803	880	365
80	244	42.3	1146	392	811	1006	695	578	787	252	814	904	372
81	243	42.8	1165	397	822	1023	707	584	799	253	820	916	377
82	241	43.4	1181	403	834	1038	718	599	810	254	837	927	382
83	240	43.9	1199	408	846	1053	822	605	822	255	849	943	391
84	239	44.4	1217	414	856	1068	840	620	833	255	860	956	399
85	238	45.0	1235	420	867	1084	752	645	845	256	871	977	407
86	237	45.6	1252	424	879	1099	763	656	856	257	882	987	416
87	236	46.1	1270	429	890	1114	774	668	868	258	894	994	425
88	235	46.6	1288	435	901	1120	785	682	879	259	905	1009	433
89	234	47.2	1306T	441T	913T	1144T	797T	697T	897T	259T	916T	1025T	441T



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692



IMPACT NOT INCLUDED

HINGE AT 1/5 POINT (0.200L)

KAB=0.231

CBA=4.00

KBA=3.692

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

## HINGE AT 1/5 POINT (0.200L)

KAB = 0.231 CAB = 4.00

CBA = 3.692 CBA = 0.250

## POSITIVE MOMENTS (kip feet)

SPAN IN	IMPACT FOR TRUCK	ALTERNATIVE	LANE	MOMENTS AT 0.3 POINT						MOMENTS AT 0.6 POINT						MAXIMUM NEGATIVE MOMENTS @A						MAXIMUM NEGATIVE MOMENTS AT B						
				OL FT	SBM @OL	FEM @A	FEM @B	OL FT	SBM @0.3L	FEM @A	FEM @B	OL FT	SBM @0.6L	FEM @A	FEM @B	OL FT	SBM @0.345L	FEM @A	FEM @B	OL FT	SBM @0.64 FT	FEM @A	FEM @B	OL FT	SBM @0.345L	FEM @A	FEM @B	
90	233	47.7	1324T	446T	924T	1159T	808T	632T	902T	260T	927T	1034T	375T	-727L	458L	952L	485L	693L	22.86	1057T	343T	947T	90	231	48.2	1342	452	935
91	230	48.8	1360	456	946	1189	831	642	925	262	949	1052	378	740	468	969	495	705	23.20	1073	346	959	91	229	49.4	1377	462	956
92	228	49.9	1395	467	958	1205	842	647	937	263	960	1056	379	756	488	1004	515	731	23.81	1103	351	983	93	226	51.0	1431	479	991
93	225	51.5	1449	484	1002	1265	887	667	983	266	1004	1133	385	818	531	1075	557	783	25.12	1166	363	1031	97	224	52.0	1467	490	1013
94	223	52.6	1485	496	1024	1295	910	677	1006	268	1026	1161	388	845	552	1111	578	810	25.84	1199	369	1055	99	222	53.1	1503	502	1035
95	222	53.7	1520	505	1047	1326	933	687	1029	270	1048	1189	390	872	574	1148	600	838	26.46	1230	375	1078	101	220	54.3	1538	511	1058
96	219	54.8	1556	517	1066	1356	956	697	1052	271	1059	1203	391	886	586	1167	611	851	26.83	1247	378	1090	102	218	55.3	1574	522	1079
97	218	55.9	1592	528	1090	1386	978	707	1075	273	1091	1245	395	928	620	1224	645	893	27.82	1294	387	1126	105	216	56.4	1609	534	1101
98	216	56.9	1627	539	1112	1416	1001	717	1087	274	1102	1259	396	942	631	1244	657	906	28.20	1311	391	1138	106	214	57.5	1645	543	1123
99	214	58.1	1652	549	1135	1446	1024	726	1110	275	1112	1273	398	957	643	1263	668	922	28.57	1328	395	1149	107	213	58.6	1680	554	1146
100	213	59.2	1686	560	1156	1477	1047	736	1144	279	1155	1309	402	1015	691	1342	716	981	29.85	1391	405	1197	111	212	59.7	1716	566	1167
101	212	59.7	1716	571	1178	1507	1058	741	1156	280	1166	1344	404	1029	704	1363	728	996	30.24	1408	410	1208	112	210	60.2	1734	571	1177
102	209	60.8	1752	577	1189	1522	1081	750	1179	282	1187	1372	406	1059	729	1403	752	1026	30.89	1439	416	1232	114	208	61.3	1770	583	1200
103	208	61.9	1806	588	1211	1552	1104	760	1202	284	1208	1400	408	1090	754	1445	775	1041	31.28	1457	420	1244	115	207	61.8	1788	586	1211
104	207	62.4	1836	594	1221	1567	1115	764	1213	285	1219	1414	409	1105	767	1466	790	1072	31.94	1488	426	1267	117	206	62.9	1824	600	1232
105	205	63.5	1841T	603T	1244T	1598T	1138T	774T	1236T	286T	1240T	1443T	412T	1136L	793L	1508L	815L	1103L	32.61	1520T	432T	1291T	119	204	64.1T	1853T	613T	1244T



## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)  
HINGE AT 1/5 POINT (0.200L)KAB = 0.281  
CAB = 4.00  
KBA = 3.692  
CBA = 0.250

## POSITIVE MOMENTS (kip feet)

LOADING	POSITIVE MOMENTS (kip feet)												NEGATIVE MOMENTS (kip feet)												
	MAXIMUM POSITIVE MOMENTS				MOMENTS AT 0.3 POINT				MOMENTS AT 0.6 POINT				MAXIMUM NEGATIVE MOMENTS @A				MAXIMUM NEGATIVE MOMENTS @B								
oL ft	SBM @Q.L.	FEM @A	FEM @B	SBM @0.3L	FEM @A	FEM @B	SBM @0.6L	FEM @A	FEM @B	SBM @0.345L	FEM @A	FEM @B	SBM @0.345L	FEM @A	FEM @B	SBM @0.345L	FEM @A	FEM @B	SBM @0.345L	FEM @A	FEM @B	SBM @0.345L	FEM @A	FEM @B	
TRUCK (T)																									
ALTERNATIVE(A)																									
LANE (L)																									
120 .204 64.1	1859T	609T	1255T	1613T	1149T	779T	1248T	287T	1250T	1457T	413T	1151L	806L	1529L	828L	1119L	32.8L	1535T	43.4T	13.02T	12.0				
121 .203 64.6	1877	615	1266	1628	1161	783	1260	288	1261	1471	414	1167	819	1551	841	1134	33.2T	1552	43.6	13.14	12.1				
122 .202 65.1	1894	620	1276	1643	1172	788	1271	289	1271	1485	415	1183	833	1573	854	1150	33.9T	1567	44.0	13.26	12.2				
123 .202 65.7	1912	626	1287	1658	1184	793	1283	290	1282	1499	416	1199	846	1594	866	1167	33.9T	1584	44.5	13.37	12.3				
124 .201 66.2	1930	632	1298	1673	1195	797	1294	291	1292	1513	417	1215	860	1616	881	1183	34.2T	1599	44.7	13.49	12.4				
125 .200 66.7	1948	637	1309	1688	1207	802	1306	292	1303	1527	418	1231	873	1636	894	1199	34.6T	1616	45.1	13.61	12.5				
126 .199 67.3	1966	643	1319	1704	1218	807	1317	293	1313	1542	419	1247	887	1651	908	1215	34.9T	1631	45.3	13.72	12.6				
127 .198 67.8	1984	649	1330	1734	1229	811	1329	294	1323	1556	420	1264	901	1683	921	1232	35.3T	1649	45.7	13.84	12.7				
128 .198 68.4	2002	654	1341	1734	1241	816	1340	295	1334	1570	422	1280	918	1705	935	1249	35.5T	1663	46.0	13.96	12.8				
129 .197 68.9	2020	660	1351	1749	1252	821	1352	296	1344	1584	423	1296	929	1728	949	1265	35.9T	1681	46.4	14.07	12.9				
130 .196 69.5	2037	663	1364	1764	1264	828	1363	297	1360	1598	424	1313	944	1751	969	1282	36.2T	1698	46.6	14.19	13.0				
131 .195 70.1	2055	669	1374	1776	1275	830	1375	298	1365	1612	425	1330	959	1774	977	1299	36.6T	1713	47.1	14.31	13.1				
132 .195 70.6	2073	675	1385	1794	1287	834	1386	299	1375	1626	426	1347	972	1797	991	1316	36.9T	1726	47.3	14.42	13.2				
133 .194 71.2	2091	680	1396	1809	1298	839	1398	300	1386	1640	427	1364	987	1820	1005	1333	37.3T	1746	47.7	14.54	13.3				
134 .193 71.7	2108	686	1406	1824	1310	844	1406	301	1396	1655	428	1381	1002	1843	1029	1351	37.6T	1760	47.9	14.66	13.4				
135 .192 72.2	2126	692	1417	1840	1321	858	1421	302	1406	1669	429	1398	1016	1867	1034	1368	38.0T	1779	48.4	14.77	13.6				
136 .192 72.8	2144	697	1428	1855	1332	853	1432	303	1417	1683	430	1415	1031	1891	1048	1386	38.3T	1793	48.6	14.89	13.6				
137 .191 73.3	2162	703	1438	1870	1344	857	1444	304	1427	1697	431	1432	1040	1914	1063	1403	38.6T	1808	48.8	15.01	13.7				
138 .190 73.8	2180	709	1449	1885	1355	862	1455	306	1437	1711	432	1450	1061	1938	1078	1421	39.0T	1826	49.3	15.12	13.6				
139 .189 74.4	2198	714	1460	1900	1367	866	1467	307	1447	1725	433	1467	1077	1963	1093	1439	39.3T	1841	49.5	15.24	13.9				
140 .189 74.9	2216	720	1470	1915	1376	871	1478	308	1456	1739	434	1485	1092	1987	1108	1457	39.7T	1859	50.0	15.35	14.0				
141 .188 75.4	2234	726	1481	1930	1390	876	1490	309	1466	1754	435	1503	1107	2011	1123	1475	40.0T	1874	50.2	15.47	14.1				
142 .187 76.1	2251	729	1493	1945	1401	880	1501	310	1478	1768	436	1520	1123	2036	1138	1493	40.3T	1888	50.4	15.59	14.2				
143 .187 76.6	2269	734	1504	1961	1413	885	1513	311	1486	1782	437	1538	1139	2050	1153	1511	40.7T	1907	50.8	15.70	14.3				
144 .186 77.2	2286	740	1515	1976	1424	889	1524	312	1499	1795	438	1556	1154	2085	1168	1529	41.0T	1921	51.1	15.82	14.4				
145 .185 77.7	2304	746	1525	1991	1436	894	1535	313	1509	1810	439	1574	1170	2110	1184	1548	41.4T	1940	51.5	15.93	14.5				
146 .185 78.3	2322	751	1535	2006	1447	898	1545	314	1519	1824	440	1593	1186	2135	1199	1567	41.7T	1954	51.8	16.05	14.6				
147 .184 78.8	2340	757	1546	2021	1456	903	1559	315	1529	1838	441	1611	1202	2161	1215	1585	42.0T	1969	52.1	16.17	14.7				
148 .183 79.3	2358	763	1557	2036	1470	907	1571	316	1540	1853	442	1629	1218	2186	1231	1604	42.4T	1988	52.6	16.26	14.8				
149 .182 79.9	2376T	769T	1567T	2061T	1481T	912T	1582T	317T	1550T	1867T	443T	1648L	1235L	2211L	1246L	1623L	42.7T	2002T	52.8T	16.40T	14.9				

August, 1962

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)  
HINGE AT 1/5 POINT (0.200L)KAB = 0.231  
CAB = 4.00  
CBA = 0.280

## POSITIVE MOMENTS (kip feet)

LOADING	MAXIMUM POSITIVE MOMENTS	NEGATIVE MOMENTS (kip feet)								MAXIMUM NEGATIVE MOMENTS AT A												
		0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	0.10L	0.11L	0.12L	0.13L	0.14L	0.15L	0.16L	0.17L						
TRUCK (+)																						
ALTERNATIVE (A)																						
LANE (L)																						
JR	MN APPC	qL	SBM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	SL	SBM	FEM	FEM					
ft	ft	ft	@ qL	@ A	@ B	@ 0.3L	@ A	@ B	@ 0.6L	@ A	@ B	@ 0.9L	@ A	@ B	0.345L	@ A	@ B	@ A @ B				
150	182	80.4	2304T	774T	2066T	1493T	916T	1594T	318T	1560T	444T	1667L	1251L	2237L	1262L	1642L	43.05	2017T	530T	1651T		
151	181	80.9	2412	780	2082	1589	1040	921	1605	319	1570	1895	1685	1268	2263	1278	1661	43.49	2036	535	1663	
152	181	81.5	2490	786	1600	2097	1516	925	1617	320	1580	1909	446	1704	1284	2289	1295	1680	43.78	2051	537	1674
153	180	82.0	2448	791	1610	2112	1527	930	1628	321	1590	1923	447	1723	1301	2315	1311	1700	44.22	2059	542	1686
154	179	82.5	2466	797	1621	2127	1539	934	1640	322	1601	1937	448	1742	1318	2341	1327	1719	44.51	2084	545	1698
155	179	83.1	2483	803	1631	2142	1550	939	1651	323	1611	1952	449	1761	1335	2366	1344	1739	44.79	2099	547	1709
156	178	83.6	2501	808	1642	2157	1562	943	1663	324	1621	1966	450	1780	1352	2394	1360	1758	44.24	2118	552	1721
157	177	84.3	2518	811	1654	2172	1573	948	1674	325	1631	1980	451	1800	1369	2421	1377	1778	44.53	2133	554	1732
158	177	84.8	2536	817	1665	2187	1585	952	1686	327	1641	1994	452	1819	1356	2448	1393	1798	44.82	2147	557	1744
159	176	85.4	2554	822	1676	2202	1596	957	1697	328	1651	2008	453	1839	1404	2475	1410	1818	45.27	2166	562	1755
160	175	85.9	2572	828	1686	2216	1608	961	1709	329	1661	2022	454	1858	1421	2502	1427	1838	45.56	2181	564	1767
161	175	86.5	2590	834	1697	2233	1619	966	1720	330	1671	2037	455	1878	1439	2529	1439	1858	45.85	2196	567	1778
162	174	87.0	2608	839	1707	2248	1631	970	1732	331	1682	2051	456	1898	1457	2557	1461	1879	47.14	2211	569	1790
163	176	87.5	2626	845	1718	2263	1642	975	1743	332	1692	2065	457	1918	1474	2584	1479	1899	47.50	2210	574	1801
164	173	88.1	2643	851	1729	2278	1654	979	1755	333	1702	2079	458	1938	1492	2612	1496	1920	47.89	2245	577	1813
165	172	88.6	2661	856	1739	2293	1665	984	1766	334	1712	2093	459	1958	1510	2640	1514	1940	48.18	2250	579	1824
166	172	89.1	2679	862	1750	2308	1677	988	1778	335	1722	2107	460	1978	1529	2668	1531	1961	48.54	2279	584	1836
167	171	89.7	2697	868	1760	2323	1688	993	1789	336	1732	2121	461	1999	1547	2696	1549	1982	48.93	2294	587	1848
168	171	90.2	2715	873	1771	2339	1700	997	1801	337	1742	2136	462	2019	1565	2724	1566	2003	49.22	2309	589	1859
169	170	90.8	2733	879	1782	2354	1711	1001	1812	338	1752	2150	463	2040	1584	2753	1585	2024	49.69	2328	595	1871
170	169	91.3	2751	885	1792	2360	1723	1006	1824	339	1762	2172	464	2060	1602	2781	1602	2045	49.96	2343	597	1882
171	169	91.8	2769	890	1803	2384	1734	1010	1836	341	1772	2178	465	2081	1621	2810	1620	2066	50.27	2358	600	1894
172	168	92.4	2787	896	1813	2399	1745	1015	1847	342	1782	2192	466	2102	1640	2839	1638	2088	50.57	2373	602	1905
173	168	92.9	2805	902	1824	2414	1757	1019	1859	343	1792	2206	467	2123	1659	2868	1657	2109	51.03	2392	607	1917
174	167	93.4	2822	908	1834	2429	1768	1024	1870	344	1802	2221	468	2144	1678	2897	1675	2131	51.33	2407	610	1928
175	167	94.1	2839	910	1847	2444	1780	1028	1882	345	1812	2235	469	2165	1697	2926	1694	2153	51.62	2422	612	1940
176	166	94.7	2857	915	1858	2460	1791	1033	1893	346	1822	2249	470	2186	1716	2555	1712	2174	51.92	2437	615	1951
177	166	95.2	2875	921	1868	2475	1803	1037	1905	347	1832	2263	471	2208	1735	2585	1731	2196	52.39	2457	620	1953
178	165	95.8	2893	927	1879	2490	1814	1041	1916	348	1842	2277	472	2229	1755	3015	1750	2218	52.69	2472	623	1974
179	164	96.3	2911T	932T	1889T	2495T	1826T	1046T	1928T	349T	1852T	2291T	473T	2251L	1774L	3045L	1768L	2211L	52.98	2487T	623T	1986T

## ONE LANE LIVE LOAD (H20-516-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/5 POINT (0.200L)

KAB = 0.231

CAB = 4.00

CBA = 0.250

CBB = 0.252

## POSITIVE MOMENTS (kip feet)

SPAN LENGTH FT	MAXIMUM POSITIVE MOMENTS	MOMENTS AT 0.3 POINT						MOMENTS AT 0.6 POINT						MAXIMUM NEGATIVE MOMENTS AT 0.3 POINT						NEGATIVE MOMENTS (kip feet)					
		GL FT	SBM @ GL	FEM @ A	FEM @ B	FEM @ 0.3L	SBM @ A	FEM @ B	FEM @ 0.6L	GL FT	SBM @ A	FEM @ B	FEM @ 0.6L	GL FT	SBM @ GL	FEM @ A	FEM @ B	FEM @ 0.6L	GL FT	SBM @ GL	FEM @ A	FEM @ B	FEM @ 0.6L		
120	164	96.8	2929T	938T	1900T	2320T	1637T	1050T	1939T	350T	1862T	2306T	474T	2222L	1794L	3075L	1787L	2263L	53.46	2506T	631T	1997T	180		
181	163	97.4	2946	944	1910	2335	1849	1055	1951	352	1872	2320	475	2294	1814	3105	1806	2285	53.76	2521	633	2009	181		
182	163	97.9	2954	949	1921	2550	1860	1059	1962	353	1882	2334	476	2316	1834	3136	1826	2308	54.05	2536	636	2020	182		
183	162	98.5	2982	955	1931	2665	1872	1064	1974	354	1892	2348	477	2338	1854	3156	1864	2330	54.35	2551	638	2031	183		
184	162	99.0	3000	961	1942	2580	1883	1068	1985	355	1902	2362	478	2360	1874	3197	1864	2353	54.83	2571	644	2043	184		
185	161	99.5	3016	966	1953	2596	1895	1072	1997	356	1912	2376	479	2382	1894	3227	1884	2376	55.13	2585	647	2054	185		
186	161	100.1	3036	972	1963	2611	1906	1077	2008	357	1922	2391	479	2405	1914	3248	1903	2399	55.43	2601	649	2066	186		
187	160	100.6	3054	978	1974	2626	1918	1081	2020	358	1932	2405	480	2427	1935	3289	1923	2422	55.73	2616	652	2077	187		
188	160	101.1	3072	983	1984	2641	1929	1086	2031	359	1942	2419	481	2449	1955	3320	1943	2445	56.02	2631	654	2089	188		
189	159	101.7	3090	989	1995	2656	1941	1090	2043	360	1952	2433	482	2472	1976	3332	1963	2468	56.51	2651	660	2100	189		
190	159	102.2	3107	995	2005	2671	1952	1094	2054	362	1962	2447	483	2495	1997	3383	1983	2491	56.81	2666	663	2112	190		
191	158	102.8	3125	1000	2016	2686	1964	1099	2066	363	1972	2461	484	2517	2017	3445	2003	2515	57.11	2681	665	2123	191		
192	158	103.3	3143	1006	2026	2701	1975	1103	2077	364	1982	2476	485	2540	2038	3447	2023	2538	57.41	2697	668	2135	192		
193	157	103.8	3161	1012	2037	2717	1987	1108	2089	365	1992	2490	486	2563	2059	3479	2043	2562	59.10	2777	684	2192	197		
194	157	104.4	3179	1017	2047	2732	1998	1112	2100	366	2002	2504	487	2586	2081	3511	2063	2586	59.60	2797	690	2203	198		
195	156	104.9	3197	1023	2058	2747	2010	1116	2112	367	2012	2518	488	2609	2102	3543	2084	2610	58.50	2747	679	2169	195		
196	156	105.6	3213	1025	2071	2762	2021	1121	2124	368	2022	2532	489	2633	2123	3575	2104	2634	58.80	2762	681	2181	196		
197	155	106.2	3221	1030	2081	2777	2033	1125	2135	369	2031	2546	490	2655	2145	3608	2125	2658	59.10	2777	684	2192	197		
198	155	106.7	3229	1036	2092	2772	2044	1130	2147	370	2041	2561	491	2680	2166	3640	2146	2682	59.60	2797	690	2203	198		
199	154	107.3	3227	1042	2103	2807	2056	1134	2158	372	2051	2575	492	2703	2188	3673	2167	2706	59.90	2812	692	2215	199		
200	154	107.8	3225	1047	2113	2822	2067	1138	2170	373	2061	2589	493	2727	2210	3706	2188	2731	60.20	2827	695	2226	200		
201	153	108.3	3203	1053	2124	2838	2079	1143	2181	374	2071	2603	494	2751	2232	3739	2209	2755	60.50	2843	698	2228	201		
202	153	108.9	3221	1059	2134	2833	2090	1147	2193	375	2081	2617	495	2775	2254	3772	2230	2780	61.00	2863	704	2249	202		
203	152	109.4	3239	1064	2145	2868	2102	1152	2204	376	2091	2631	495	2799	2276	3806	2251	2805	61.31	2878	706	2261	203		
204	152	110.0	3337	1070	2155	2883	2113	1156	2216	377	2101	2646	496	2823	2298	3839	2273	2830	61.61	2893	709	2272	204		
205	152	110.5	3374T	1075T	2166T	2898	2125	1160	2227	378	2111	2660	497	2847	2321	3873	2294	2855	61.91	2908	711	2284	205		
206	151	112.0	4288L	2430L	2896L	2913	2136	1165	2239	379	2121	2674	498	2871	2343	3907	2316	2880	62.21	2924	714	2295	206		
207	151	112.6	4326	2445L	2861	2928	2148	1169	2250	381	2131	2688	499	2893	2366	3940	2337	2905	62.72	2944	720	2306	207		
208	150	113.2	4363	2474	2866	2943	2159	1173	2262	382	2140	2702	500	2920	2388	3975	2359	2930	63.02	2959	723	2318	208		
209	150	113.7	4401L	2497L	2911L	2958T	2171T	1178T	2273T	383T	2150T	2716T	501T	2945L	2411L	3945L	2361L	2956L	63.33	2974T	725T	2329T	209		

LOADING		POSITIVE MOMENTS (kip feet)										NEGATIVE MOMENTS (kip feet)											
		HINGE AT 1/6 POINT (0.167L)					MAXIMUM NEGATIVE MOMENTS @A					MAXIMUM NEGATIVE MOMENTS @B					MAXIMUM NEGATIVE MOMENTS @A						
TRUCK (T)	ALTERNATIVE(A)	LANE(L)	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$	W=0.64 $\frac{K}{Ft}$						
30	.300	15.0	312A	81A	219A	274A	155A	139A	211A	34A	210A	55A	127L	54L	190L	59L	139L	8.8	271	59	227	30	
31	.300	15.5	324	84	227	284	161	143	219	35	220	56	132	58	198	62	145	9.2	282	61	235	31	
32	.300	16.1	336	87	234	294	167	146	227	35	227	56	138	62	207	65	152	9.5	293	62	243	32	
33	.300	16.6	348	90	242	304	173	150	234	36	234	56	144	66	216	69	158	6.4	243T	122T	250T	33	
34	.300	17.1	360	93	249	314	179	153	242	36	240	57	149	70	225	72	165	6.70	256	123	262	34	
35	.300	17.6	372	96	256	324	185	157	250	37	247	57A	155	74	234	76	172	7.00	269	124	275	35	
36	.300	18.2	383	99	264	334A	191A	160A	257	38	254	58T	200T	161	78	244	80	179	7.27	282	131	288	36
37	.300	18.7	395	103	271	363T	168T	239T	265	38	261	266	208	167	82	253	83	186	7.55	295	138	300	37
38	.300	19.2	407	106	278	376	195	281	273	39	268	279	216	173	87	253	87	193	7.87	310	145	313	38
39	.300	19.7	419	109	285	390	203	289	280	39	274	290	223	180	91	273	91	200	8.15	324	152	325	39
40	.300	20.3	431	112	293	403	210	297	288	40	281	300	229	186	96	262	95	208	8.44	338	159	338	40
41	.300	20.8	443	115	300	418	218	309	296	40	288	311	236	192	100	273	99	215	8.73	352	166	350	41
42	.299	21.3	455	118	307	433	225	322	303	41	295	322	241	199	105	303	103	223	9.07	367	173	362	42
43	.298	21.8	467	121	315	440	233	334	311	42	301	333	247	205	110	313	108	231	9.37	381	180	375	43
44	.296	22.4	479	124	322	464	241	345	319	42	308	344	252	212	115	324	112	239	8.54	365	181	385	44
45	.294	22.9	491	127	329	479	249	356	326	43	315	355	257	219	121	334	117	247	8.82	379	182	399	45
46	.292	23.4	503	131	336	494	256	367	334	43	321	366	261	226	121	345	121	255	9.11	393	183	413	46
47	.291	24.0	515A	133A	344A	509	264	378	342	44	328	377	265	232	131	356	126	263	9.45	408	186	427	47
48	.289	24.1	583T	169T	440T	524	273	368	349	45	335	388	269	239	137	367	130	271	9.74	423	187	441	48
49	.287	24.6	601	193	454	281	398	357	45	341	400	273	246	142	378	135	280	10.04	437	189	454	49	
50	.286	25.1	610	198	467	554	289	407	365	46	348	411	277	254	148	390	140	288	10.35	452	190	468	50
51	.284	25.7	637	202	481	570	297	417	372	46	355	472	280	261	154	401	145	297	10.66	467	192	481	51
52	.282	26.2	655	207	494	585	305	426	380	47	361	444	283	268	160	413	150	305	11.02	483	195	495	52
53	.281	26.7	673	211	507	600	314	435	388	48	366	445	286	275	166	425	155	315	11.34	498	197	508	53
54	.279	27.2	691	216	520	615	322	443	395	48	374	457	289	283	173	437	160	324	11.65	513	199	522	54
55	.278	27.7	709	220	533	630	330	452	403	49	381	468	292	291	170	449	166	333	11.93	527	200	535	55
56	.276	28.2	727	224	546	645	339	460	411	49	386	440	295	298	165	461	171	342	12.26	542	202	548	56
57	.275	28.7	745	229	558	660	347	469	419	50	394	491	297	306	192	474	176	352	12.60	558	204	562	57
58	.273	29.2	763	233	571	675	356	477	426	51	401	503	300	314	199	486	182	361	12.93	574	206	575	58
59	.272	29.7	781T	238T	583T	690T	364T	465T	403A	51A	407A	514T	302T	322L	205L	499L	188L	371L	13.27	590T	208T	588T	59

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/6 POINT (0.167L)

KAB = 0.144

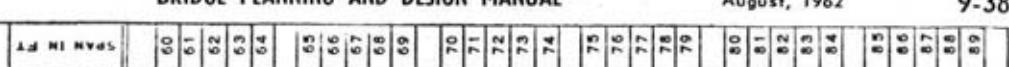
CAB = 5.00

CBA = 0.200

KDA = 3.573

## POSITIVE MOMENTS. (kip feet)

LOADING	0.3L						0.8L						0.8L						
	TRUCK (T)	ALTERNATIVE(A)	W=0.64 K/Ft																
LANE (L)	MAXIMUM POSITIVE MOMENTS	MAXIMUM POSITIVE MOMENTS	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT															
INCHES	GL FT	SBM @ GL	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ 0.356L	FEM @ A	FEM @ B	SBM @ 0.356L	FEM @ A	FEM @ B
60	270	30.2	799T	243T	596T	706T	373T	492T	557T	186T	598T	526T	304T	330L	212L	512L	193L	380L	13.5L
61	269	30.8	816	247	606	721	361	500	568	185	611	537	307	338	219	525	199	390	13.9L
62	267	31.3	834	251	621	736	390	508	580	189	623	549	309	346	226	538	205	400	14.2L
63	266	31.8	852	256	633	751	399	515	591	189	636	560	311	354	234	551	211	410	14.5L
64	265	32.3	870	261	645	766	407	523	603	190	646	572	313	362	241	565	217	420	14.9L
65	263	32.8	888	265	657	781	416	530	614	190	660	584	315	371	249	578	223	431	15.2L
66	262	33.4	906	269	669	795	424	537	626	190	673	595	316	379	256	592	229	441	15.5L
67	260	33.9	924	274	681	811	433	544	637	191	685	607	318	388	264	606	235	452	15.8L
68	259	34.4	942	279	693	827	442	551	649	191	697	619	320	396	272	620	242	462	16.2L
69	258	34.9	960	283	705	842	451	558	660	192	709	630	321	405	280	634	248	473	16.5L
70	256	35.4	976	288	717	857	459	565	672	192	721	642	323	414	288	648	255	484	16.9L
71	255	35.9	996	293	729	872	468	572	684	193	733	654	325	423	296	663	261	495	17.2L
72	254	36.5	1013	296	741	887	477	579	695	193	745	666	326	432	304	677	268	506	17.5L
73	253	37.0	1031	301	753	902	486	585	707	194	757	677	328	441	313	692	275	517	17.9L
74	251	37.5	1049	306	765	917	494	592	718	194	769	689	329	450	321	707	282	528	18.2L
75	250	38.0	1067	311	776	932	503	599	730	195	781	701	330	459	330	722	289	540	18.6L
76	249	38.5	1085	316	788	948	512	605	741	195	793	713	332	469	338	737	296	551	18.9L
77	248	39.0	1103	320	800	963	521	612	753	196	804	724	333	478	347	753	303	563	19.2L
78	246	39.5	1121	324	812	978	529	618	764	196	816	736	334	488	356	768	310	575	19.6L
79	245	40.1	1139	329	823	993	538	624	776	197	828	746	336	497	365	784	317	587	19.9L
80	244	40.6	1157	333	835	1008	547	631	787	197	839	760	337	507	375	800	325	599	20.3L
81	243	41.1	1175	338	846	1023	556	637	805	198	851	771	338	517	384	816	332	611	20.6L
82	241	41.7	1193	343	856	1038	565	643	810	199	863	783	339	526	393	832	340	623	20.9L
83	240	42.2	1211	348	869	1053	574	650	822	199	874	795	340	536	403	848	347	635	21.3L
84	239	42.8	1228	351	881	1068	583	656	833	200	885	807	342	546	413	854	355	648	21.6L
85	238	43.3	1246	356	893	1084	591	662	845	200	897	819	343	556	422	861	363	660	22.0L
86	237	43.8	1264	361	904	1099	600	668	856	201	908	830	344	567	432	868	371	673	22.3L
87	236	44.3	1282	366	915	1114	609	674	866	202	920	842	345	577	442	914	379	685	22.6L
88	235	44.8	1300	371	927	1129	616	680	879	202	931	854	346	587	452	931	387	699	23.0L
89	234	45.3	1318T	375T	938T	1144T	627T	686T	891T	203T	942T	866T	347T	598L	463L	948L	395L	712L	23.4L



## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/6 POINT (0.167L)

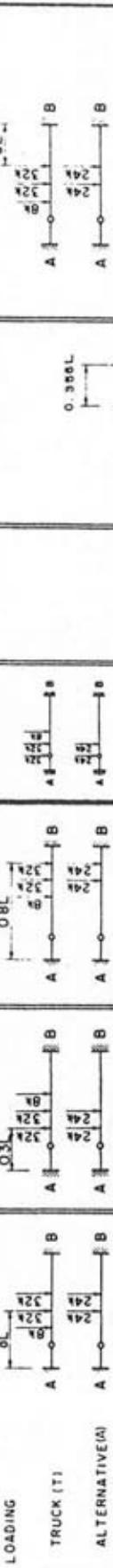
KAB = 0.144

CAB = 5.00

CBA = 0.200

## POSITIVE MOMENTS (kip feet)

## NEGATIVE MOMENTS (kip feet)



LOADING	MAXIMUM POSITIVE MOMENTS	MOMENTS AT 0.3 POINT						MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS @ A						MAXIMUM NEGATIVE MOMENTS @ B					
		QL FT	SL FT	FEM @ A	FEM @ B	SBM @ A	SBM @ B	FEM @ A	FEM @ B	SBM @ A	SBM @ B	FEM @ A	FEM @ B	SBM @ A	SBM @ B	FEM @ A	FEM @ B	SBM @ A	SBM @ B	FEM @ A	FEM @ B				
TRUCK (T)	W = 0.64 kN/ft	90	233	45.9	1336T	379T	950T	1159T	636T	902T	203T	954T	878T	348T	608L	473L	966L	403L	725L	23.76	1062T	281T	981T	90	
ALTERNATIVE (A)	W = 0.64 kN/ft	91	231	46.4	1354	384	961	1174	645	965	204	914	890	349	619	483	983	411	738	24.11	1038	284	993	91	
		92	230	46.9	1372	388	973	1189	654	976	205	925	901	350	629	494	1001	420	751	24.38	1112	285	1006	92	
		93	229	47.4	1390	393	984	1205	663	987	205	937	913	351	640	505	1018	428	765	24.74	1129	288	1018	93	
		94	228	47.9	1408	398	995	1220	672	998	206	948	925	352	651	515	1036	437	778	25.10	1143	290	1030	94	
		95	227	48.4	1426	403	1006	1235	680	960	207	1009	937	353	662	526	1051	446	792	25.46	1162	293	1043	95	
		96	226	49.0	1444	408	1016	1250	689	972	207	1021	949	354	673	537	1072	454	806	25.82	1178	296	1055	96	
		97	225	49.5	1462	412	1029	1265	698	983	208	1032	961	354	684	548	1091	463	820	26.19	1195	299	1067	97	
		98	224	50.1	1479	416	1041	1280	707	995	209	1043	972	355	695	560	1109	472	834	26.46	1209	300	1079	98	
		99	223	50.6	1497	420	1052	1295	716	1006	209	1054	984	356	706	571	1128	481	848	26.83	1226	303	1092	99	
		100	222	51.1	1515	425	1063	1310	725	1018	210	1065	996	357	718	583	1146	490	862	27.20	1243	306	1104	100	
		101	221	51.6	1533	430	1074	1326	734	1020	211	1076	1008	358	729	594	1165	499	877	27.57	1260	309	1116	101	
		102	220	52.1	1551	435	1085	1341	743	1041	211	1087	1020	359	741	606	1184	508	891	27.85	1274	310	1128	102	
		103	219	52.6	1569	440	1097	1356	752	1052	212	1098	1032	360	752	618	1203	518	906	28.22	1291	313	1141	103	
		104	218	53.1	1587	445	1108	1371	761	1064	213	1109	1044	360	764	630	1223	527	921	28.60	1308	316	1153	104	
		105	217	53.7	1605	449	1119	1386	770	1075	213	1119	1055	361	776	642	1242	537	936	28.87	1322	316	1165	105	
		106	216	54.3	1623	453	1131	1401	779	1087	214	1130	1067	362	787	654	1262	546	951	29.26	1340	321	1177	106	
		107	215	54.8	1641	457	1142	1416	788	1096	215	1141	1079	363	799	666	1282	556	966	29.64	1357	324	1189	107	
		108	214	55.3	1659	462	1153	1431	797	1110	216	1152	1091	364	811	679	1301	565	981	29.92	1371	326	1201	108	
		109	214	55.8	1677	467	1167	1446	805	1121	216	1163	1103	364	823	691	1321	575	996	30.30	1388	329	1214	109	
		110	213	56.3	1695	472	1175	1462	815	1133	217	1174	1115	365	836	704	1342	585	1012	30.69	1406	332	1226	110	
		111	212	56.8	1713	477	1186	1477	824	1143	218	1184	1127	366	848	716	1362	595	1027	30.97	1420	334	1238	111	
		112	211	57.3	1731	482	1197	1492	833	1159	218	1195	1136	367	860	729	1382	605	1043	31.36	1438	337	1250	112	
		113	210	57.9	1749	486	1208	1507	842	1187	219	1206	1150	367	873	742	1403	615	1058	31.75	1455	340	1262	113	
		114	209	58.4	1767	491	1219	1522	851	1190	220	1217	1162	368	885	755	1424	626	1074	32.03	1470	342	1274	114	
		115	208	59.0	1784	494	1232	1537	860	1190	221	1227	1174	369	898	769	1445	636	1090	32.43	1487	345	1286	115	
		116	207	59.5	1802	499	1243	1552	869	841	1202	221	1238	1186	370	910	782	1466	646	1106	32.71	1502	347	1298	116
		117	207	60.0	1820	504	1254	1567	876	847	1213	222	1249	1196	370	923	795	1487	657	1123	33.11	1519	350	1311	117
		118	206	60.5	1838	509	1265	1583	887	852	1225	223	1259	120	371	936	809	1508	667	1139	33.39	1534	352	1323	118
		119	205	61.0	1856T	513T	1276T	1598T	896T	858T	1224T	224T	1280T	1220T	372T	949L	822L	1550L	678L	1155L	33.80	1551T	355T	1335T	119

## ONE LANE LIVE LOAD (H20-S16-44)

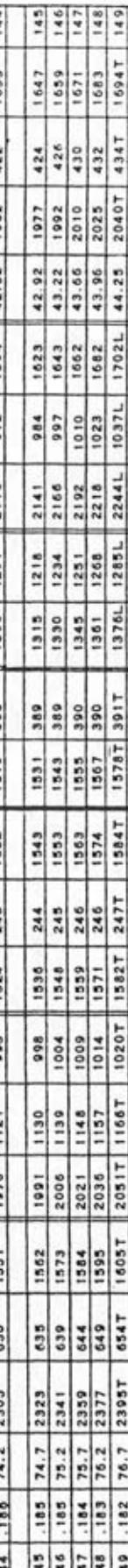
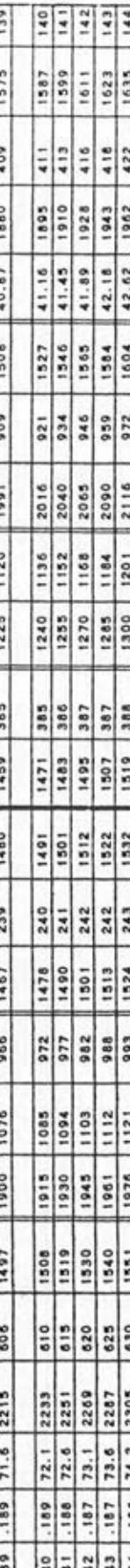
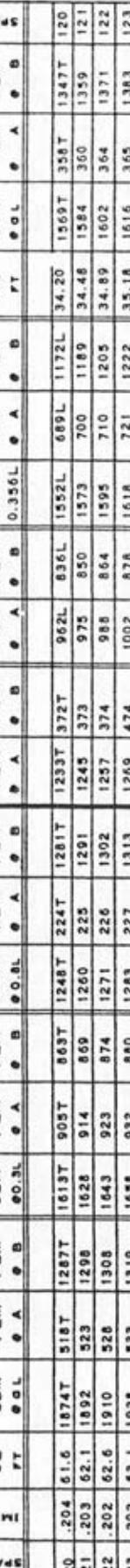
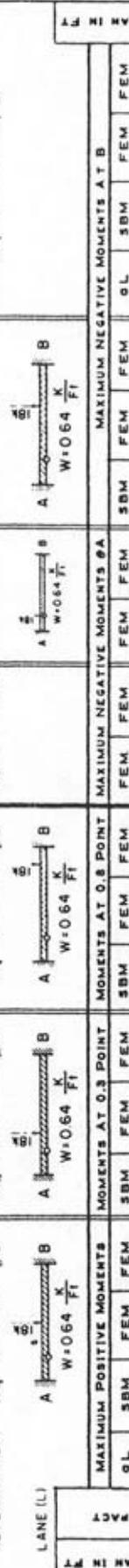
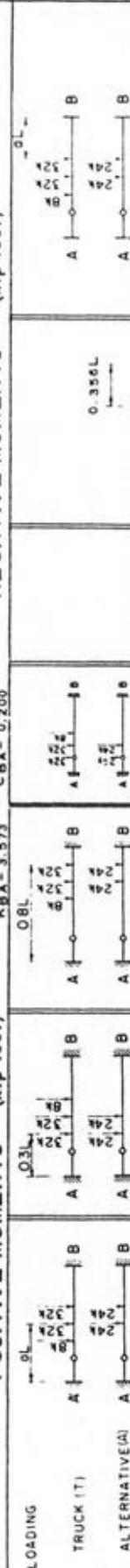
(IMPACT NOT INCLUDED)

## HINGE AT 1/6 POINT (0.167L)

CAB = 5.00

CBA = 0.260

## NEGATIVE MOMENTS (kip feet)



LOADING	MAXIMUM POSITIVE MOMENTS GL SBM FEM FEM	MAXIMUM POSITIVE MOMENTS FOL FBL FBL FBL	POSITIVE MOMENTS (kip feet)						NEGATIVE MOMENTS (kip feet)					
			0.3L	0.8L	0.8L	0.8L	0.8L	0.8L	0.356L	0.356L	0.356L	0.356L	0.356L	0.356L
TRUCK (T)	120 204 61.6 1874T	518T	1287T	1613T	905T	863T	1248T	224T	1233T	372T	962L	636L	1552L	34.20
ALTERNATIVE (A)	121 203 62.1 1892	523	1298	1628	914	869	1260	225	1291	1245	975	850	1573	700
	122 202 62.6 1910	526	1308	1643	923	874	1271	226	1302	1257	974	864	1595	710
	123 202 63.1 1926	533	1319	1658	932	880	1283	227	1313	1269	974	1002	1618	721
	124 201 63.6 1946	538	1330	1673	941	885	1294	227	1323	1281	975	1015	1640	733
	125 200 64.1 1964	542	1341	1688	950	891	1308	228	1334	1293	976	1028	1652	744
	126 199 64.6 1982	545	1354	1704	959	896	1317	229	1344	1305	976	1042	1685	755
	127 198 65.3 2000	550	1365	1719	968	902	1329	230	1355	1317	977	1055	1707	766
	128 198 65.8 2017	555	1376	1734	977	907	1340	231	1365	1329	978	1059	1730	776
	129 197 65.3 2035	560	1386	1749	986	912	1352	231	1376	1340	978	1063	1753	789
	130 196 66.8 2053	564	1397	1764	995	918	1363	232	1386	1352	979	1067	1776	801
	131 195 67.3 2071	569	1408	1779	1004	923	1375	233	1397	1364	980	1111	1995	800
	132 195 67.8 2089	574	1419	1794	1013	929	1386	234	1407	1376	980	1125	1996	802
	133 194 68.4 2107	579	1430	1809	1022	934	1398	234	1418	1386	981	1139	2006	804
	134 193 68.9 2125	584	1441	1824	1031	939	1409	235	1428	1400	982	1153	2011	804
	135 192 69.4 2143	589	1452	1840	1040	945	1421	236	1439	1412	982	1167	2056	805
	136 192 69.9 2161	593	1463	1855	1049	950	1432	237	1449	1424	983	1182	2072	818
	137 191 70.4 2179	598	1474	1870	1058	956	1444	238	1460	1435	984	1195	2088	824
	138 190 71.1 2197	601	1486	1885	1067	961	1455	238	1470	1446	984	1211	2104	825
	139 189 71.6 2215	606	1497	1900	1076	966	1467	239	1480	1459	985	1225	2120	826
	140 189 72.1 2233	610	1508	1915	1085	972	1476	240	1491	1471	985	1240	2136	826
	141 188 72.6 2251	615	1519	1930	1094	977	1490	241	1501	1483	986	1255	2152	827
	142 187 73.1 2269	620	1530	1945	1103	982	1501	242	1512	1495	987	1270	2168	828
	143 187 73.6 2287	625	1540	1961	1112	988	1513	242	1522	1507	987	1285	1844	829
	144 186 74.2 2305	630	1551	1976	1121	993	1524	243	1532	1519	988	1300	1201	830
	145 185 74.7 2323	635	1562	1991	1130	998	1536	244	1543	1519	989	1315	1216	831
	146 185 75.2 2341	639	1573	2006	1139	1004	1548	245	1553	1538	989	1324	2166	832
	147 184 75.7 2359	644	1584	2021	1148	1009	1559	246	1563	1547	990	1345	1010	833
	148 183 76.2 2377	649	1595	2036	1157	1014	1571	246	1574	1557	990	1361	1268	834
	149 182 76.7 2395	654T	1605T	2051T	1166T	1020T	1582T	247T	1584T	1578T	991T	1376L	2244L	835

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

## HINGE AT 1/6 POINT (0.167L)

KAB = 0.144

CAB = 5.00

CBA = 0.200

## NEGATIVE MOMENTS (kip feet)

LOADING	POSITIVE MOMENTS (kip feet)										NEGATIVE MOMENTS (kip feet)											
	MAXIMUM POSITIVE MOMENTS					MOMENTS AT 0.3 POINT					MOMENTS AT 0.6 POINT					MAXIMUM NEGATIVE MOMENTS @A						
ALTERNATIVE(A)	AL	FEM	FEM	FEM	SBM	FEM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM	FEM		
ALTERNATIVE(B)	AL	FEM	FEM	FEM	SBM	FEM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM	FEM		
TRUCK (T)	0.3L	16.67	16.67	16.67	0.8L	15.94	15.94	15.94	1.02	15.94	15.94	15.94	15.94	1.30	1.39	1.39	1.27	1.05	1.05	1.05		
ALTERNATIVE(A)	0.3L	16.67	16.67	16.67	0.8L	16.05	16.05	16.05	1.02	16.05	16.05	16.05	16.05	1.32	1.29	1.29	1.27	1.06	1.06	1.06		
ALTERNATIVE(B)	0.3L	16.67	16.67	16.67	0.8L	16.15	16.15	16.15	1.02	16.15	16.15	16.15	16.15	1.32	1.37	1.37	1.32	1.07	1.07	1.07		
LANE (L)	W=0.64 $\frac{K}{Ft}$	16.67	16.67	16.67	W=0.64 $\frac{K}{Ft}$	16.25	16.25	16.25	1.02	16.25	16.25	16.25	16.25	1.35	1.35	1.35	1.32	1.09	1.09	1.09		
PT	W=0.64 $\frac{K}{Ft}$	16.67	16.67	16.67	W=0.64 $\frac{K}{Ft}$	16.04	16.04	16.04	1.02	16.04	16.04	16.04	16.04	1.35	1.35	1.35	1.32	1.10	1.10	1.10		
IMPACT IN SPAN	AL	FEM	FEM	FEM	SBM	FEM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	SBM	FEM	FEM	SBM	FEM	FEM	FEM		
150	182	77.2	24.13T	65.9T	16.67T	20.66T	11.75T	10.23T	15.94T	24.8T	15.94T	15.94T	15.94T	13.92L	13.02L	12.27L	10.50L	1.722L	44.70	20.59T	4.38T	
151	181	77.9	24.30	66.1	16.29	20.82	11.84	10.30	16.05	24.9	16.05	16.05	16.05	14.07	14.07	13.20	12.96	10.63	1742	45.00	20.74	4.40
152	181	78.4	24.48	66.6	16.40	20.97	11.94	10.36	16.17	25.0	16.15	16.14	16.14	14.23	14.23	13.37	13.22	10.77	1762	45.45	20.93	4.44
153	180	78.9	24.66	67.1	16.51	21.12	12.03	10.41	16.28	25.1	16.25	16.25	16.25	14.39	14.39	13.55	13.49	10.90	1783	45.75	21.08	4.46
154	179	79.5	24.84	67.5	16.61	21.27	12.12	10.46	16.40	25.1	16.36	16.36	16.36	14.55	14.55	13.72	13.75	11.04	1803	46.05	21.23	4.48
155	179	80.0	25.02	68.0	16.72	21.42	12.21	10.51	16.51	25.2	16.46	16.50	16.50	14.71	14.71	13.90	14.02	11.17	1824	46.50	21.42	4.52
156	178	80.5	25.20	68.5	16.83	21.57	12.30	10.57	16.63	25.3	16.56	16.62	16.62	14.87	14.87	14.08	14.29	11.31	1844	46.80	21.57	4.54
157	177	81.0	25.38	69.0	16.94	21.72	12.39	10.62	16.74	25.4	16.66	16.74	16.74	15.03	15.03	14.26	14.56	11.45	1865	47.10	21.72	4.56
158	177	81.5	25.56	69.5	1705	2187	1246	1067	1686	235	1677	1686	1686	15.19	15.19	14.44	14.63	11.59	1886	47.55	21.91	4.60
159	176	82.0	25.74	70.0	1716	2202	1257	1073	1697	256	1687	1698	1698	15.35	15.35	14.62	14.81	11.73	1907	47.86	22.06	4.62
160	175	82.6	25.92	70.4	1726	2218	1266	1078	1700	256	1697	1709	1709	15.52	15.52	14.81	15.03	11.87	1926	48.16	22.22	4.64
161	175	83.1	26.10	70.9	1737	2233	1275	1083	1720	257	1707	1721	1721	15.68	15.68	14.99	15.26	12.01	1949	48.52	22.41	4.68
162	174	83.6	26.28	71.4	1746	2248	1284	1088	1732	258	1718	1733	1733	15.85	15.85	15.18	15.36	12.15	1971	48.92	22.56	4.70
163	174	84.1	26.46	71.9	1759	2263	1293	1094	1743	259	1726	1745	1745	16.01	16.01	15.36	15.62	12.30	1992	49.23	22.71	4.72
164	173	84.6	26.64	72.4	1770	2278	1302	1099	1755	260	1736	1757	1757	16.18	16.18	15.55	15.80	12.44	2014	49.53	22.85	4.74
165	172	85.1	26.82	72.8	1780	2293	1311	1104	1766	261	1746	1769	1769	16.35	16.35	15.74	16.01	12.59	2036	49.99	23.05	4.76
166	172	85.7	27.00	73.3	1791	2308	1320	1109	1776	261	1756	1781	1781	16.52	16.52	15.93	17.07	12.73	2057	50.30	23.21	4.80
167	171	86.2	27.18	73.8	1802	2323	1329	1115	1789	262	1769	1793	1793	16.69	16.69	16.12	17.28	12.88	2079	50.60	23.35	4.82
168	171	86.9	27.35	74.0	1815	2339	1336	1120	1801	263	1799	1805	1805	16.86	16.86	16.31	17.64	13.03	2101	51.07	23.55	4.87
169	170	87.4	27.53	74.5	1826	2354	1347	1125	1812	264	1798	1817	1817	17.03	17.03	16.51	17.93	13.18	2123	51.38	23.70	4.89
170	169	87.9	27.71	75.0	1836	2369	1356	1130	1824	265	1799	1829	1829	17.20	17.20	16.70	18.22	13.33	2146	51.66	23.86	4.91
171	169	88.4	27.89	75.4	1847	2384	1365	1135	1836	266	1809	1840	1840	17.37	17.37	16.80	18.51	13.48	2168	52.15	24.05	4.95
172	168	88.9	28.07	75.9	1858	2399	1375	1141	1847	266	1820	1852	1852	17.55	17.55	17.10	18.80	13.63	2191	52.46	24.20	4.97
173	168	89.4	28.25	76.4	1859	2414	1384	1146	1859	267	1830	1864	1864	17.72	17.72	17.29	19.10	13.78	2213	52.76	24.35	4.99
174	167	90.0	28.43	76.9	1860	2429	1393	1151	1870	268	1840	1876	1876	17.90	17.90	17.49	19.39	13.93	2236	53.07	24.51	5.01
175	167	90.5	28.61	77.4	1890	2444	1402	1156	1882	269	1850	1888	1888	18.07	18.07	17.59	19.69	14.09	2259	53.55	24.70	5.06
176	166	91.0	28.79	77.9	1901	2460	1411	1162	1893	270	1860	1900	1900	18.25	18.25	17.90	19.99	14.24	2262	53.86	24.85	5.08
177	166	91.5	28.97	78.3	1912	2475	1420	1167	1905	271	1870	1912	1912	18.43	18.43	18.10	2029	14.40	2305	54.16	25.01	5.10
178	165	92.0	29.15	78.8	1923	2490	1429	1172	1916	272	1881	1924	1924	18.61	18.61	18.30	2059	14.55	2328	54.47	25.16	5.12
179	164	92.5	29.33T	79.3T	1934T	2505T	1438T	1177T	1928T	272T	1891T	1936T	1936T	18.79L	18.79L	18.51L	2089L	14.71L	2351L	54.95	2536T	511T

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/6 POINT (0.167L)

KAB = 0.144 CAB = 5.00

KDA = 3.573 CDA = 0.200

## POSITIVE MOMENTS (kip feet)

LOADING	MAXIMUM POSITIVE MOMENTS						NEGATIVE MOMENTS (kip feet)						MAXIMUM NEGATIVE MOMENTS AT B								
	Q.L. FT	SBM @ Q.L.	FEM @ A	FEM @ B	SBM @ 0.5L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	SBM @ 0.35L	FEM @ A	FEM @ B	SBM @ FT	FEM @ A	FEM @ B		
TRUCK (T)																					
ALTERNATIVE(A)	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A		
LANE (L)	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A		
IN	IMPACT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT								
OUT	IMPACT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT	W=0.64 K FT								
180	164	93.1	2951T	798T	1944T	2520T	1442T	1162T	1939T	273T	1901T	1948T	408T	1897L	1871L	3120L	1487L	2375L	519T	2063T	180
181	163	93.6	2969	803	1925	2535	1456	1188	1951	274	1911	1950	409	1915	1692	3150	1502	2398	55.57	2556	181
182	163	94.1	2987	807	1946	2550	1465	1193	1962	275	1921	1972	410	1933	1913	3181	1518	2422	55.87	2582	182
183	162	94.6	3004	812	197	2565	1474	1198	1974	276	1931	1983	410	1951	1934	3212	1534	2446	56.36	2601	183
184	162	95.1	3022	817	1987	2580	1483	1203	1985	277	1941	1995	411	1970	1955	3243	1551	2470	56.67	2617	184
185	161	95.6	3040	822	1998	2596	1492	1208	1997	278	1951	2007	411	1988	1976	3274	1567	2494	56.98	2632	185
186	161	96.2	3058	827	2009	2611	1501	1214	2006	278	1961	2019	412	2007	1998	3306	1583	2518	57.29	2647	186
187	160	96.7	3076	831	2020	2626	1510	1219	2020	279	1972	2031	412	2026	2019	3337	1599	2542	57.78	2657	187
188	160	97.4	3094	833	2033	2641	1519	1224	2031	280	1982	2043	413	2044	2040	3359	1618	2566	58.09	2663	188
189	159	97.9	3112	838	2044	2656	1529	1229	2043	281	1992	2055	413	2063	2062	3401	1632	2591	58.40	2678	189
190	159	98.4	3130	843	2054	2671	1538	1234	2054	282	2002	2067	414	2082	2074	3433	1649	2615	58.71	2713	190
191	158	98.9	3147	848	2065	2686	1547	1240	2066	283	2012	2070	414	2101	2106	3465	1665	2640	59.21	2733	191
192	158	99.5	3165	852	2076	2701	1556	1245	2077	284	2022	2091	415	2120	2128	3497	1682	2665	59.52	2749	192
193	157	100.0	3183T	857T	2087	2717	1565	1250	2089	285	2032	2103	415	2139	2150	3529	1699	2690	59.83	2764	193
194	157	101.9	3074L	1809L	2668L	2732	1574	1255	2100	285	2042	2115	415	2158	2172	3552	1716	2715	60.14	2779	194
195	156	102.4	30910	1826	2683	2747	1583	1260	2112	286	2052	2126	416	2178	2194	3594	1733	2740	60.64	2799	195
196	156	102.9	30945	1844	2718	2762	1592	1265	2124	287	2062	2138	417	2197	2217	3627	1750	2765	60.96	2815	196
197	155	103.4	30981	1862	2733	2777	1601	1271	2135	288	2072	2150	418	2217	2239	3660	1768	2790	61.27	2830	197
198	155	104.0	4017	1879	2768	2792	1610	1276	2147	289	2082	2162	418	2236	2252	3693	1785	2816	61.58	2846	198
199	154	104.5	4053	1897	2794	2807	1619	1281	2158	290	2092	2174	419	2256	2285	3727	1802	2841	61.88	2861	199
200	154	105.0	4090	1915	2819	2822	1628	1286	2170	291	2102	2186	419	2276	2298	3760	1820	2867	62.40	2881	200
201	153	105.5	4126	1933	2838	2837	1637	1291	2181	291	2113	2198	420	2295	2311	3793	1837	2893	62.71	2897	201
202	153	105.0	4163	1951	2850	2853	1646	1296	2193	292	2123	2210	420	2315	2354	3827	1855	2919	63.02	2912	202
203	152	106.6	4200	1970	2856	2868	1655	1302	2204	293	2133	2222	421	2335	2377	3861	1873	2945	63.34	2928	203
204	152	107.1	4237	1988	2922	2883T	1665T	1307T	2216	294	2143	2234	421	2355	2401	3895	1890	2971	63.65	2943	204
205	152	107.6	4274	2006	2948	3599L	2231L	2658L	2227	295	2153	2246	422	2375	2424	3929	1908	2997	64.16	2964	205
206	151	108.2	4311	2025	2974	3630	2250	2683	2239	296	2163	2258	422	2396	2448	3963	1926	3024	64.48	2979	206
207	151	108.7	4349	2043	3001	3662	2270	2707	2260	297	2173	2269	423	2416	2471	3998	1944	3050	64.79	2994	207
208	150	109.2	4386	2052	3027	3694	2290	2732	2281	298	2183	2281	423	2436	2495	4032	1962	3077	65.10	3010	208
209	150	109.7	4424L	2080L	3033L	3725L	2309L	2757L	2293T	298T	2193T	2293T	424T	2457L	2519L	4067L	1981L	3103L	65.42	3025T	209

LOADING	TRUCK (T)	POSITIVE MOMENTS (kip feet)						NEGATIVE MOMENTS (kip feet)						MAXIMUM NEGATIVE MOMENTS AT B						
		0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L	0.3L		
ALTERNATIVE(A)	A	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18		
LANE (L)	A	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT	W=0.64 K/FT		
L	X	MAXIMUM POSITIVE MOMENTS	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.3 POINT							
MPW	GL	SBM @ GL	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B		
30	.300	14.6	313A	70A	225A	274A	127A	151A	216A	181A	52A	109L	35L	192L	50L	143L	9.1	275A	50A	
31	.300	15.2	325	72	232	264	132	155	219	223	52	113	59	201	53	150	9.4	286	51	
32	.300	15.6	337	75	240	294	137	159	227	230	52	116	63	209	56	157	9.8	297A	53A	
33	.300	16.2	349	78	247	304	142	163	234	237	53	123	67	218	59	164	6.60	248T	102T	
34	.300	16.7	361	80	255	314	147	167	242	30	244	209A	53A	120	71	228	62	171	6.94	
35	.300	17.2	373	83	262	324	152	170	250	30	251	216T	193	75	237	65	178	7.24	275	
36	.300	17.7	385	85	270	334A	157A	174A	257	31	258	225	204	138	79	266	68	185	7.56	289
37	.300	18.2	397	86	277	363T	154T	287T	265	31	265	234	212	143	84	256	71	192	7.84	303
38	.300	18.7	409	91	285	376	160	296	273	32	272	243	219	149	88	266	74	200	8.13	316
39	.300	19.3	421	93	292	390	166	305	280	32	279	252	225	154	93	276	78	207	8.46	331
40	.300	19.8	433	96	299	403	172	313	286	32	285	261	231	159	98	286	81	215	8.76	345
41	.300	20.3	445	99	307	416	178	326	296	33	292	270	237	165	103	296	85	223	9.10	361
42	.299	20.8	456	101	314	433	184	339	309	33	299	280	242	170	108	306	88	231	9.41	375
43	.298	21.3	468	104	322	449	191	352	311	34	306	289	247	176	113	317	92	239	8.51	359
44	.296	21.8	480	107	329	464	197	364	319	34	312	290	252	182	118	327	96	247	8.80	372
45	.294	22.3	492A	109A	377A	479	204	376	326	35	319	308	256	187	124	338	99	255	9.13	388
46	.292	22.4	552T	155T	428T	494	210	387	334	35	326	318	260	193	129	349	103	264	9.43	402
47	.291	23.0	559	159	442	509	217	398	342	36	333	328	264	199	135	360	107	272	9.78	418
48	.289	23.5	587	163	456	524	223	409	349	36	339	337	268	205	140	371	111	281	10.08	432
49	.287	24.0	605	166	470	539	230	419	357	37	346	347	271	211	146	383	115	290	10.39	447
50	.286	24.4	623	170	483	554	237	430	365	37	353	357	274	217	152	394	119	299	10.75	463
51	.284	24.9	641	174	497	570	243	440	372	38	360	367	277	223	156	406	124	308	11.07	478
52	.282	25.4	659	178	510	585	250	450	380	38	366	377	280	230	165	417	128	317	11.39	493
53	.281	26.0	677	181	523	600	257	459	388	39	373	386	283	236	171	429	132	326	11.71	508
54	.279	26.5	695	185	536	615	264	466	396	39	380	396	285	242	177	442	137	335	12.04	524
55	.278	26.9	713	189	549	630	271	478	403A	40A	386A	406	288	249	184	454	141	345	12.37	539
56	.276	27.4	731	193	562	645	278	487	511T	53T	563T	416	290	255	191	466	146	354	12.71	555
57	.275	27.9	749	197	575	650	285	496	522	153	576	426	293	262	198	479	150	364	13.05	571
58	.273	28.5	767	201	588	675	291	504	534	153	589	436	295	269	204	491	155	374	13.40	587
59	.272	29.0	785T	205T	601T	690T	298T	513T	545T	553T	602T	466T	297T	275L	212L	504L	160L	386L	13.69	601T

## ONE LANE LIVE LOAD (H20-516-44)

(IMPACT NOT INCLUDED)

## HINGE AT 1/7 POINT (0.143L)

KAB = 0.097

CAB = 6.00

CBA = 0.167

KBA = 3.487

## POSITIVE MOMENTS (kip feet)

LOADING	POSITIVE MOMENTS (kip feet)										NEGATIVE MOMENTS (kip feet)												
	HINGE AT 1/7 POINT (0.143L)					MAXIMUM MOMENTS AT 0.8 POINT					MAXIMUM MOMENTS AT 0.8 POINT					MAXIMUM NEGATIVE MOMENTS @ A							
TRUCK (T)	ALTERNATIVE(A)	LANE (L)	MAXIMUM IMPACT F.L.	SBM F.L.	SBM FEM	FEM @ A	FEM @ B	SBM F.L.	SBM FEM	FEM @ A	FEM @ B	SBM F.L.	SBM FEM	FEM @ A	FEM @ B	SBM F.L.	SBM FEM	FEM @ A	FEM @ B				
			0.3L	0.8L	0.8L	0.8L	0.8L	0.8L	0.8L	0.8L	0.8L	0.365L	0.365L	0.365L	0.365L	0.365L	0.365L	0.365L	0.365L	0.365L			
60	270	29.5	803T	209T	613T	706T	303T	522T	557T	154T	615T	456T	299T	282L	219L	517L	165L	394L	14.04	617T	177T	620T	60
61	269	30.0	821	213	626	721	312	530	568	154	628	466	301	289	226	530	170	404	14.40	633	179	633	61
62	267	30.4	839	217	636	736	319	538	580	154	640	476	303	296	233	544	174	415	14.76	650	182	647	62
63	266	31.0	856	220	651	751	327	546	591	155	653	486	304	303	241	557	180	425	15.06	664	183	660	63
64	265	31.5	874	224	663	766	334	554	603	155	666	496	306	310	249	571	185	436	15.42	681	185	673	64
65	263	32.0	892	228	675	781	341	562	614	155	678	506	308	317	256	585	190	446	15.73	696	187	686	65
66	262	32.5	910	232	688	796	348	570	626	156	690	516	309	325	264	598	195	457	16.10	713	189	700	66
67	260	33.0	928	236	700	811	355	578	637	156	703	526	311	332	272	612	201	468	16.41	728	190	713	67
68	259	33.5	946	239	712	827	362	586	649	156	715	536	312	339	280	627	206	479	16.80	745	193	726	68
69	258	34.0	964	243	724	842	369	593	660	157	727	546	314	347	289	641	212	490	17.11	760	194	739	69
70	256	34.5	982	247	737	857	376	601	672	157	740	556	315	354	297	655	217	502	17.50	777	197	752	70
71	255	35.0	1000	252	749	872	383	608	684	157	752	566	316	362	308	670	223	513	17.82	792	199	765	71
72	254	35.5	1018	256	760	887	391	616	695	158	764	576	317	370	314	685	229	524	18.14	808	200	776	72
73	253	36.1	1036	259	773	902	398	623	707	156	776	586	319	377	323	700	234	536	18.54	825	203	791	73
74	251	36.6	1054	263	785	917	405	631	718	158	788	596	320	385	332	715	240	548	18.87	841	205	804	74
75	250	37.0	1072	267	797	932	412	638	730	159	800	607	321	393	341	730	246	560	19.20	856	207	817	75
76	249	37.5	1090	271	809	948	419	645	741	159	812	617	322	401	350	745	252	572	19.53	872	208	830	76
77	248	38.0	1108	275	820	963	427	652	753	160	823	627	323	409	359	761	258	584	19.87	888	210	842	77
78	246	38.6	1126	278	833	978	434	659	764	160	835	637	324	417	368	777	264	596	20.28	906	213	855	78
79	245	39.1	1144	282	845	993	441	666	776	161	847	647	325	425	378	792	271	608	20.62	922	215	868	79
80	244	39.6	1162	286	856	1008	448	673	787	161	859	657	326	434	387	808	277	621	20.96	938	217	881	80
81	243	40.1	1180	291	868	1023	456	680	799	162	870	667	327	442	397	825	283	634	21.30	954	219	894	81
82	241	40.6	1198	295	880	1038	463	687	810	162	882	677	328	450	407	841	290	646	21.65	970	221	907	82
83	240	41.1	1216	299	891	1053	470	694	822	162	894	688	329	459	417	857	296	659	21.99	986	223	919	83
84	239	41.7	1233	302	904	1068	477	701	833	163	905	698	330	467	427	874	303	672	22.34	1002	225	932	84
85	238	42.2	1251	306	915	1084	485	708	845	163	917	708	331	476	437	890	309	685	22.69	1018	227	945	85
86	237	42.7	1269	310	927	1099	492	715	856	164	928	718	332	485	447	907	316	698	23.05	1035	229	957	86
87	236	43.2	1287	314	938	1114	499	721	868	164	940	728	333	493	458	924	323	712	23.40	1051	231	970	87
88	235	43.6	1305	316	950	1129	506	726	879	165	951	738	333	502	468	941	330	725	23.76	1067	234	983	88
89	234	44.1	1323T	322T	961T	1144T	514T	735T	891T	165T	962T	748T	334T	511L	479L	959L	337L	799L	24.12	1084T	236T	996T	89

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/7 POINT (0.143L)

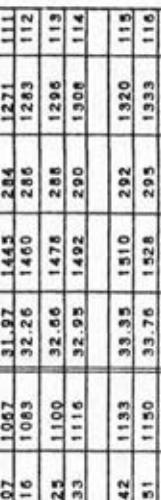
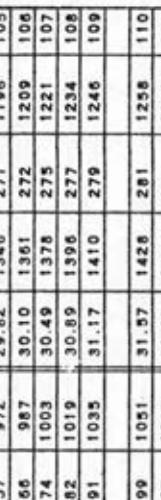
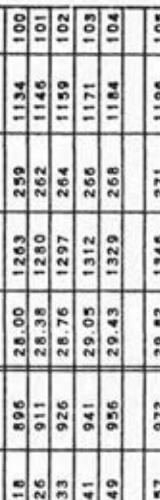
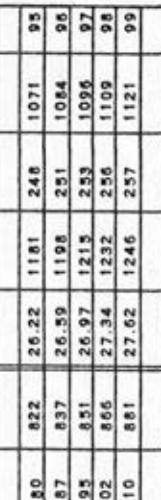
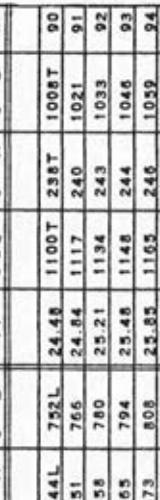
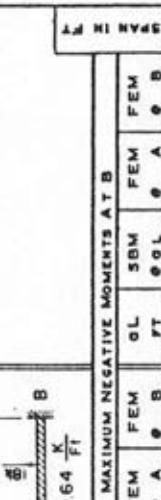
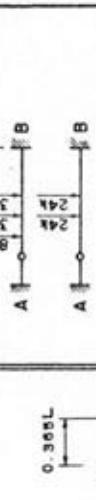
KAB = 0.097

CAB = 6.00

CBA = 0.167

## POSITIVE MOMENTS (kip feet)

LOADING	MAXIMUM POSITIVE MOMENTS						NEGATIVE MOMENTS (kip feet)					
	GL PT	SL PT	SBM @ 0.3L	FEM @ A	FEM @ B	W=0.64 K/Ft	GL PT	SL PT	SBM @ 0.8L	FEM @ A	FEM @ B	W=0.64 K/Ft
TRUCK (T)												
ALTERNATIVE (A)												
LANE (L)												



LOADING	MAXIMUM POSITIVE MOMENTS						NEGATIVE MOMENTS (kip feet)					
	GL PT	SL PT	SBM @ 0.3L	FEM @ A	FEM @ B	W=0.64 K/Ft	GL PT	SL PT	SBM @ 0.8L	FEM @ A	FEM @ B	W=0.64 K/Ft
90	.233	44.6	1341T	327T	973T	1159T	521T	741T	902T	166T	974T	0.8L
91	.231	45.2	1359	329	985	1174	528	748	914	165	985	0.8L
92	.230	45.7	1377	334	996	1189	536	755	925	167	996	0.8L
93	.229	46.2	1395	338	1008	1205	543	761	937	169	1008	0.8L
94	.228	46.7	1413	342	1020	1220	550	768	948	168	1019	0.8L
95	.227	47.2	1431	346	1031	1235	556	774	956	169	1030	0.8L
96	.226	47.7	1449	350	1043	1250	565	781	972	169	1041	0.8L
97	.225	48.2	1467	354	1054	1265	572	787	983	170	1053	0.8L
98	.224	48.6	1485	357	1066	1280	580	794	995	170	1064	0.8L
99	.223	49.3	1503	361	1078	1295	587	800	1006	171	1075	0.8L
100	.222	49.8	1521	365	1090	1310	594	807	1018	171	1086	0.8L
101	.221	50.3	1539	369	1100	1326	602	813	1029	172	1097	0.8L
102	.220	50.8	1557	374	1112	1341	609	820	1041	172	1108	0.8L
103	.219	51.3	1575	378	1123	1356	616	826	1052	173	1119	0.8L
104	.218	51.8	1593	382	1134	1371	624	832	1064	173	1130	0.8L
105	.217	52.3	1611	386	1146	1386	631	839	1075	174	1141	0.8L
106	.216	52.9	1628	389	1156	1401	638	845	1087	175	1152	0.8L
107	.216	53.4	1645	393	1169	1416	646	851	1098	175	1163	0.8L
108	.215	53.9	1664	397	1181	1431	653	856	1110	176	1174	0.8L
109	.214	54.4	1682	401	1192	1446	660	864	1121	176	1185	0.8L
110	.213	54.9	1700	405	1203	1462	668	870	1133	177	1196	0.8L
111	.212	55.4	1718	409	1215	1477	675	876	1144	177	1207	0.8L
112	.211	55.9	1735	414	1226	1492	682	883	1156	178	1218	0.8L
113	.210	56.4	1754	418	1237	1507	690	889	1167	179	1228	0.8L
114	.209	57.0	1772	420	1250	1522	697	895	1179	179	1239	0.8L
115	.208	57.5	1790	424	1261	1537	705	901	1190	180	1250	0.8L
116	.207	58.0	1808	429	1272	1552	712	906	1202	180	1261	0.8L
117	.207	58.5	1826	433	1283	1567	719	914	1213	181	1272	0.8L
118	.206	59.0	1844	437	1294	1593	727	920	1225	182	1282	0.8L
119	.205	59.5	1862T	441T	1306T	1598T	734T	926T	1236T	182T	1293T	0.8L

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT LC POINT :20-516

CABIN :20-516

## POSITIVE MOMENTS (kip feet)

## NEGATIVE MOMENTS (kip feet)

LOADING	MOMENTS AT 0.3 POINT						MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS @ A						MAXIMUM NEGATIVE MOMENTS AT B					
	dL ft	SBM @ GL	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ GL	FEM @ A	FEM @ B	SBM @ GL	FEM @ A	FEM @ B		
TRUCK (T)	0.3L ft	1880T	445T	1317T	741T	932T	1248T	183T	1304T	1064T	353T	822L	866L	1569L	587L	1218L	35.16	1593T	304T	1382T	304T	120		
ALTERNATIVE (A)	0.3L ft	1898	449	1328	749	938	1260	184	1315	1075	354	834	882	1591	596	1235	35.45	1608	305	1395	305	121		
LANE (L)	0.3L ft	1916	453	1339	756	945	1271	184	1325	1085	354	845	897	1613	606	1253	35.87	1626	308	1407	308	122		
	0.3L ft	1920	455	1350	764	951	1283	185	1336	1095	355	856	912	1635	615	1270	36.28	1644	311	1419	311	123		
	0.3L ft	1921	457	1350	764	951	1294	185	1347	1105	355	866	926	1658	625	1288	36.58	1659	313	1432	313	124		
	0.3L ft	1922	462	1361	771	957	1305	186	1357	1116	356	879	941	1680	634	1306	37.00	1677	316	1444	316	125		
	0.3L ft	1923	464	1374	788	963	1306	186	1357	1126	356	891	956	1703	644	1324	37.30	1692	317	1456	317	126		
	0.3L ft	1924	468	1385	794	969	1317	187	1368	1126	356	891	956	1703	644	1324	37.30	1692	317	1456	317	126		
	0.3L ft	1925	472	1396	793	975	1329	187	1379	1136	357	902	972	1726	653	1342	37.72	1710	320	1469	320	127		
	0.3L ft	1926	476	1408	794	981	1340	188	1389	1146	357	914	987	1749	663	1360	38.02	1725	322	1481	322	128		
	0.3L ft	1927	481	1419	795	987	1352	189	1400	1156	357	926	1002	1772	673	1379	38.44	1743	325	1493	325	129		
	0.3L ft	1928	484	1422	796	988	1354	189	1402	1160	357	936	1012	1785	683	1397	38.74	1758	326	1505	326	130		
	0.3L ft	1929	486	1424	797	989	1356	189	1404	1162	357	946	1022	1798	693	1416	39.04	1773	328	1516	328	131		
	0.3L ft	1930	488	1441	799	999	1375	190	1421	1177	358	949	1033	1819	703	1434	39.47	1791	331	1530	331	132		
	0.3L ft	1931	493	1452	804	1006	1386	190	1432	1187	359	951	1049	1843	713	1453	39.77	1806	333	1542	333	133		
	0.3L ft	1932	493	1452	804	1006	1386	191	1442	1197	359	953	1065	1867	723	1472	40.20	1824	336	1555	336	134		
	0.3L ft	1933	497	1463	809	1012	1398	191	1452	1208	360	965	1081	1891	723	1472	40.20	1824	336	1555	336	134		
	0.3L ft	1934	501	1474	814	1018	1409	192	1462	1208	360	976	1104	1907	725	1569	41.98	1907	347	1616	347	139		
	0.3L ft	1935	505	1485	815	1023	1414	192	1463	1218	360	988	1097	1915	733	1491	40.50	1840	357	1567	357	135		
	0.3L ft	1936	508	1498	818	1026	1432	193	1474	1228	360	996	1101	1939	743	1510	40.94	1858	360	1579	360	136		
	0.3L ft	1937	512	1509	820	1026	1444	194	1484	1238	361	1022	1130	1964	754	1530	41.24	1873	342	1591	342	137		
	0.3L ft	1938	516	1520	828	1038	1455	194	1495	1248	361	1035	1146	1988	764	1549	41.68	1892	345	1604	345	138		
	0.3L ft	1939	520	1532	822	1000	1467	195	1505	1259	362	1047	1163	2013	775	1569	41.98	1907	347	1616	347	139		
	0.3L ft	1940	524	1543	815	1054	1478	196	1516	1269	362	1060	1180	2038	785	1586	42.28	1922	348	1628	348	140		
	0.3L ft	1941	528	1554	820	1057	1526	196	1526	1279	363	1072	1197	2063	796	1606	42.72	1940	342	1640	342	141		
	0.3L ft	1942	532	1565	821	1056	1501	197	1537	1289	363	1085	1214	2088	807	1628	43.03	1956	343	1653	343	142		
	0.3L ft	1943	537	1576	912	1013	1547	198	1547	1300	363	1098	1231	2113	818	1648	43.47	1974	357	1665	357	143		
	0.3L ft	1944	541	1587	919	1078	1524	198	1556	1310	364	1111	1248	2139	828	1668	43.78	1989	358	1677	358	144		
	0.3L ft	1945	545	1598	991	1084	1536	199	1568	1320	364	1124	1265	2164	839	1686	44.06	2005	360	1689	360	145		
	0.3L ft	1946	549	1609	2006	944	1090	1548	200	1579	1330	365	1137	1283	2190	850	1709	44.53	2023	363	1701	363	146	
	0.3L ft	1947	553	1620	2021	941	1096	1559	200	1589	1340	365	1150	1300	2216	861	1729	44.83	2039	365	1714	365	147	
	0.3L ft	1948	557	1631	2036	949	1102	1571	201	1600	1351	365	1163	1316	2242	873	1750	45.29	2057	366	1726	366	148	
	0.3L ft	1949	561	1644T	2051T	957	1108T	1582T	201T	1610T	1361T	367	1176T	1336L	2268L	884L	1770L	45.59	2073T	370T	1738T	370T	149	

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/7 POINT (0.143L)

KAB = 0.097 CAB = 6.00

CDA = 0.167 CDA = 3.487

## POSITIVE MOMENTS (kip feet)

LOADING	TRUCK [ $L_e$ ]	ALTERNATIVE [ $L_e$ ]	LANE [ $L_e$ ]	MAXIMUM POSITIVE MOMENTS				MOMENTS AT 0.3 POINT				MOMENTS AT 0.6 POINT				MAXIMUM NEGATIVE MOMENTS AT 0.3 POINT				MAXIMUM NEGATIVE MOMENTS AT 0.6 POINT			
				OL	SL	FEM	FEM	SLM	FEM	FEM	SLM	FEM	FEM	SLM	FEM	FEM	SLM	FEM	FEM	SLM	FEM	FEM	
150	182	75.4	2419T	5637T	1655T	2066T	964T	1114T	1594T	202T	1621T	1371T	366T	1189L	1354L	2295L	895L	1791L	45.90	2088T	372T	1750T	150
151	181	76.0	2437	567	1666	2082	971	1120	1605	203	1631	1381	367	1203	1372	2321	907	1812	46.36	2107	375	1763	151
152	181	76.5	2455	572	1677	2097	978	1125	1617	203	1641	1392	367	1216	1390	2348	918	1833	46.66	2122	377	1775	152
153	180	77.0	2473	576	1688	2112	986	1131	1628	204	1652	1402	367	1229	1408	2375	929	1854	46.97	2137	378	1787	153
154	179	77.5	2491	580	1700	2127	993	1137	1640	205	1662	1412	368	1243	1426	2401	941	1876	47.43	2156	382	1799	154
155	179	78.0	2509	584	1711	2142	1001	1143	1651	205	1672	1422	368	1257	1445	2429	953	1897	47.74	2172	383	1811	155
156	178	78.5	2527	588	1722	2157	1008	1149	1663	206	1683	1433	369	1270	1454	2456	964	1919	48.05	2187	385	1824	156
157	177	79.0	2545	592	1733	2172	1015	1155	1674	207	1693	1443	369	1284	1462	2483	976	1930	48.51	2206	389	1836	157
158	177	79.5	2563	596	1744	2187	1023	1161	1666	208	1704	1453	369	1298	1501	2511	986	1962	48.82	2221	390	1848	158
159	176	80.0	2581	601	1755	2202	1030	1167	1697	208	1714	1463	370	1312	1520	2538	1000	1984	49.13	2237	392	1860	159
160	175	80.5	2599	605	1766	2218	1038	1173	1709	209	1724	1473	370	1326	1539	2566	1012	2006	49.60	2256	396	1872	160
161	175	81.0	2617	609	1777	2233	1045	1179	1720	210	1735	1484	370	1340	1559	2594	1024	2028	49.91	2271	397	1884	161
162	174	81.5	2635	613	1788	2248	1053	1185	1732	210	1745	1494	371	1354	1578	2622	1036	2051	50.22	2287	399	1897	162
163	174	82.0	2653	617	1799	2263	1060	1191	1743	211	1755	1504	371	1368	1597	2651	1049	2073	50.69	2306	403	1909	163
164	173	82.5	2671	621	1810	2278	1067	1197	1755	212	1766	1514	371	1382	1617	2679	1061	2093	51.00	2321	404	1921	164
165	172	83.2	2688	623	1823	2293	1075	1202	1766	212	1776	1525	372	1397	1637	2708	1073	2118	51.31	2337	406	1933	165
166	172	83.7	2706	627	1834	2308	1082	1206	1778	213	1786	1535	372	1411	1657	2736	1086	2141	51.79	2356	410	1945	166
167	171	84.2	2724	631	1845	2323	1090	1214	1789	214	1796	1545	373	1426	1677	2765	1098	2164	52.10	2371	411	1957	167
168	171	84.7	2742	635	1856	2339	1097	1220	1801	214	1807	1555	373	1440	1697	2794	1111	2187	52.42	2387	413	1970	168
169	170	85.2	2760	639	1867	2354	1105	1226	1812	215	1817	1566	373	1455	1717	2823	1123	2210	52.73	2402	415	1982	169
170	169	85.7	2778	644	1878	2369	1112	1232	1824	216	1827	1576	374	1470	1727	2853	1136	2233	53.21	2422	419	1994	170
171	169	86.2	2796	646	1884	2384	1119	1238	1836	216	1836	1586	374	1484	1737	2862	1149	2256	53.52	2437	420	2006	171
172	168	86.7	2814	652	1900	2399	1127	1244	1848	217	1848	1596	374	1499	1754	2912	1162	2280	53.84	2453	422	2018	172
173	168	87.2	2832	656	1911	1241	1134	1249	1859	218	1858	1607	375	1514	1769	2942	1175	2303	54.32	2472	424	2030	173
174	167	87.7	2850	660	1922	1249	1142	1255	1868	218	1868	1617	375	1529	1781	2971	1186	2327	54.64	2488	426	2042	174
175	167	88.2	2868	664	1933	1244	1149	1261	1882	219	1879	1627	375	1544	1811	3001	1201	2351	54.95	2503	429	2055	175
176	166	88.7	2886	668	1944	1246	1157	1267	1893	220	1889	1637	376	1559	1827	3032	1214	2375	55.26	2519	431	2067	176
177	166	89.2	2904	672	1955	1247	1164	1273	1905	221	1899	1647	376	1574	1833	3062	1227	2399	55.75	2538	435	2079	177
178	165	89.7	2922	677	1966	1249	1171	1279	1916	221	1909	1658	376	1590	1844	3093	1241	2423	56.07	2554	437	2091	178
179	164	90.2	2940T	681T	1977T	1250T	1177T	1285T	1928T	222T	1920T	1668T	377T	1605L	1925L	3122L	1254L	2447L	56.38	259T	439T	2103T	179

## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

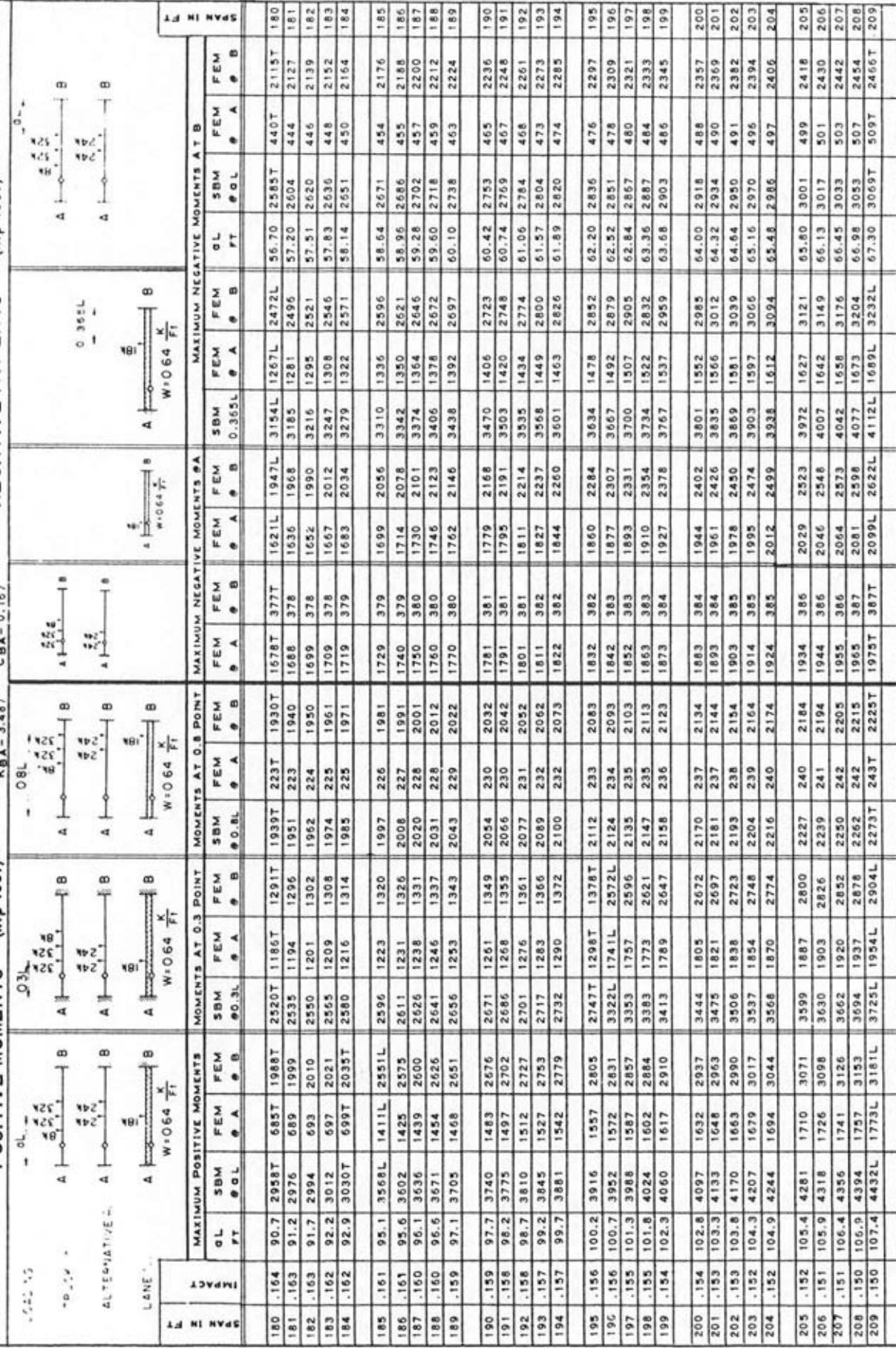
## HINGE AT 1/7 POINT (0.143L)

KAB = 0.057 CAB = 6.00

KBA = 3.487 CBA = 0.167

## POSITIVE MOMENTS (kip feet)

Lane	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.3 POINT						MOMENTS AT 0.6 POINT						MAXIMUM NEGATIVE MOMENTS						
	Q.L. FT	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B	SBM #OL	FEM #A	FEM #B			
1	0.159	97.7	3740	1463	2676	1261	1349	2054	230	2032	1781	1779	2168	1406	2723	60.42	2753	465	2236	190	476	2297	195		
2	1.58	98.2	3775	1497	2702	1268	1355	2066	230	2042	1791	1795	2191	1420	2748	60.74	2769	467	2248	191	476	2297	195		
3	1.58	98.7	3810	1512	2727	1275	1361	2077	231	2052	1801	1811	2214	1353	2774	61.06	2784	468	2251	192	478	2309	196		
4	1.57	99.2	3845	1527	2753	1283	1366	2089	232	2062	1811	1822	2237	1331	2867	62.84	2867	480	2261	192	478	2309	196		
5	1.57	99.7	3881	1542	2779	1290	1372	2100	232	2073	1822	1832	2254	1354	2932	61.57	2804	473	2273	193	478	2324	198		
6	1.56	100.2	3916	1557	2805	1297	1387	2112	233	2083	1832	1860	2284	1363	2959	63.68	2903	485	2345	199	478	2357	200		
7	1.56	100.7	3952	1552	2831	1322	1411	2124	234	2093	1842	1863	2307	1367	2879	62.52	2851	478	2359	201	478	2369	201		
8	1.55	101.3	3988	1567	2857	1347	1437	2149	235	2103	1852	1883	2331	1370	2905	62.84	2867	480	2361	192	478	2369	201		
9	1.55	101.8	4024	1602	2884	1366	1466	2175	235	2111	1863	1893	2354	1374	2932	63.36	2887	484	2373	193	478	2373	198		
10	1.54	102.3	4060	1617	2910	1381	1494	2199	236	2123	1873	1884	2197	1378	2957	63.68	2903	485	2345	199	478	2357	200		
11	1.54	102.8	4097	1632	2937	1405	1444	2207	237	2134	1893	1884	2044	1362	2985	64.00	2918	488	2357	200	478	2357	200		
12	1.53	103.3	4133	1648	2963	1435	1475	2211	237	2144	1893	1884	2061	1426	3035	64.32	2934	490	2369	201	478	2369	201		
13	1.53	103.8	4170	1663	2990	1463	1506	2230	238	2154	1903	1885	2078	1450	3059	64.64	2950	491	2382	202	478	2382	202		
14	1.52	104.3	4207	1679	3017	1537	1553	2247	239	2164	1914	1885	2095	1474	3066	65.16	2910	495	2365	203	478	2365	204		
15	1.52	104.9	4244	1694	3044	1566	1587	2274	2216	2174	1924	1885	2112	1499	3093	65.48	2916	497	2406	204	478	2406	204		
16	1.51	105.4	4281	1710	3071	1599	1607	2297	240	2184	1934	1886	2046	1548	3092	65.80	3001	499	2418	205	478	2418	205		
17	1.51	106.4	4356	1741	3126	1662	1920	2252	242	2205	1935	1886	2064	2573	4042	1658	3176	66.45	3033	503	2442	207	478	2442	207
18	1.50	106.9	4394	1757	3153	1694	1937	2287	242	2215	1965	1897	2081	2598	4072	1673	3204	66.98	3033	507	2454	208	478	2454	208
19	1.50	107.4	4432	1773	3181	1725	1954	2294	2437	2225	1973	1977	2099	2622	4112	1689	3232	67.30	3097	5097	2465T	209	478	2465T	209



## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

## HINGE AT 1/8 POINT (0.125L)

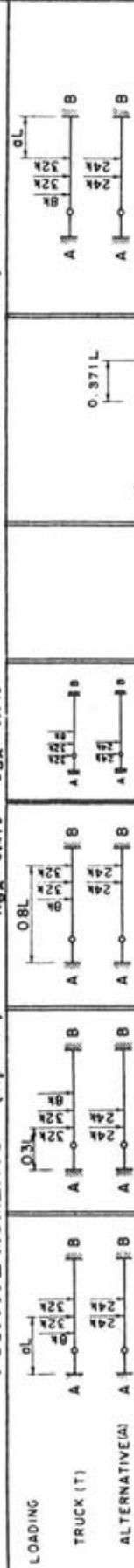
$K_{AB} = 3.070$

$C_{AB} = 7.0$

$K_{BA} = 3.419$

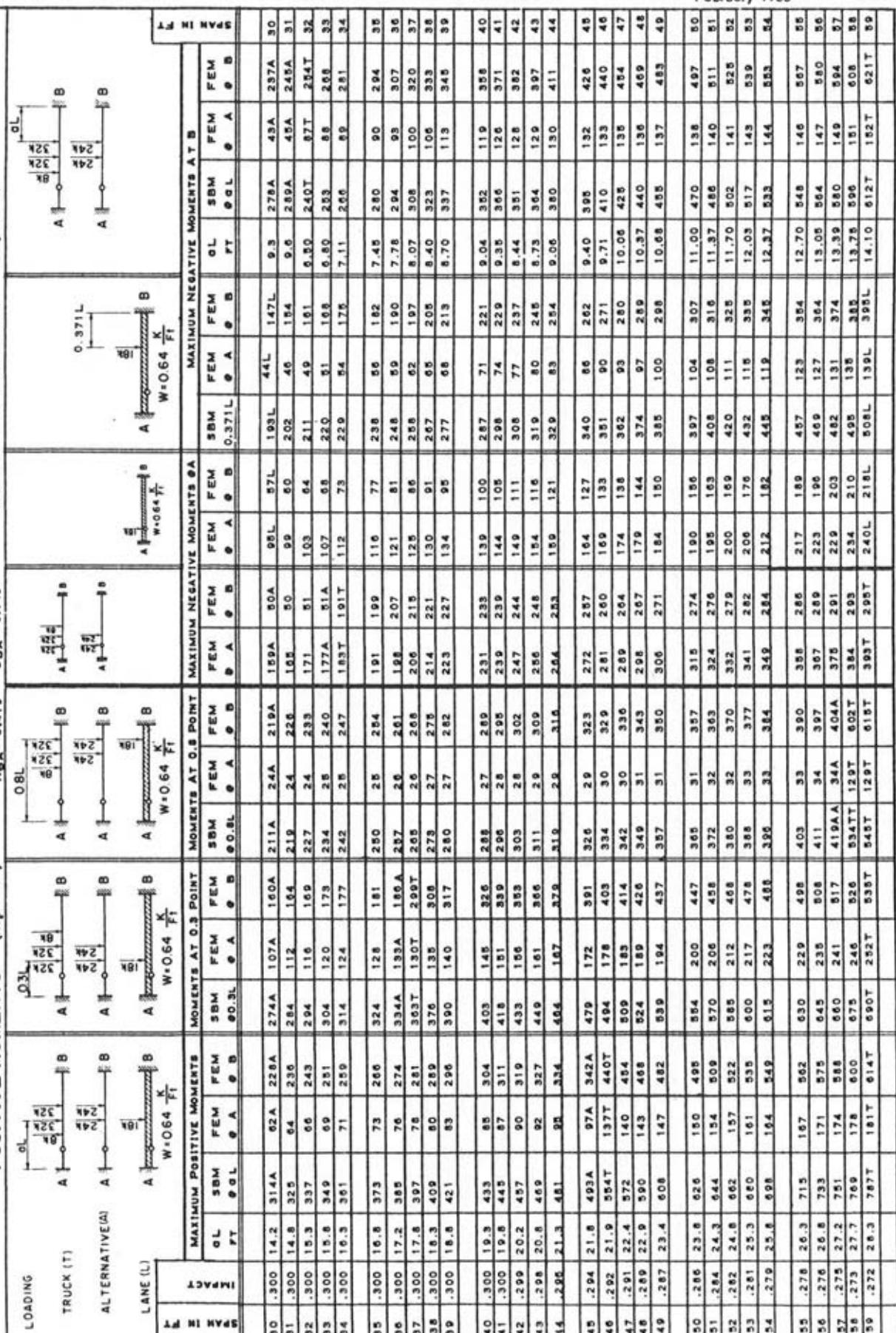
$C_{BA} = 0.143$

## POSITIVE MOMENTS (kip feet)



LOADING	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.3 POINT						MOMENTS AT 0.6 POINT						MAXIMUM NEGATIVE MOMENTS @ A						NEGATIVE MOMENTS (kip feet)			
	Q.L. FT	SBM @ Q.L.	FEM @ Q.L.	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.6L	FEM @ 0.6L	FEM @ A	FEM @ B	SBM @ 0.371L	FEM @ 0.371L	FEM @ A	FEM @ B	SBM @ Q.L.	FEM @ Q.L.	FEM @ A	FEM @ B	SBM @ FT	FEM @ FT	FEM @ A	FEM @ B			
TRUCK (T)																												
ALTERNATIVE(A)																												
LANE (L)																												

LOADING	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.3 POINT						MOMENTS AT 0.6 POINT						MAXIMUM NEGATIVE MOMENTS @ A						NEGATIVE MOMENTS (kip feet)			
	Q.L. FT	SBM @ Q.L.	FEM @ Q.L.	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.6L	FEM @ 0.6L	FEM @ A	FEM @ B	SBM @ 0.371L	FEM @ 0.371L	FEM @ A	FEM @ B	SBM @ Q.L.	FEM @ Q.L.	FEM @ A	FEM @ B	SBM @ FT	FEM @ FT	FEM @ A	FEM @ B			
30	300	14.2	314A	62A	220A	274A	107A	160A	211A	26A	160A	159A	50A	57L	193L	44L	147L	9.3	278A	43A	237A	30						
31	300	14.8	325	64	236	284	112	164	212	24	165	165	50	60	202	46	154	9.6	289A	45A	245A	31						
32	300	15.3	337	66	243	294	116	169	227	24	283	171	51	103	64	211	49	161	9.9	240T	87T	264T	32					
33	300	15.8	349	69	251	304	120	173	234	25	240	177A	51A	107	68	220	51	168	10.0	253	88	268	33					
34	300	16.3	361	71	259	314	124	177	242	25	247	183T	191T	112	73	229	54	175	11.1	266	92	281	34					
35	300	16.8	373	73	266	324	128	181	250	25	254	191	199	116	77	238	56	182	7.45	280	90	294	35					
36	300	17.2	385	76	274	334A	133A	186A	287	26	261	198	207	121	81	248	69	190	7.78	294	93	307	36					
37	300	17.8	397	78	281	363T	130T	290T	265	26	268	206	215	125	86	258	62	197	8.07	308	100	320	37					
38	300	18.3	409	80	289	376	135	308	273	27	275	214	221	130	91	267	65	205	8.40	323	106	333	38					
39	300	18.8	421	83	296	390	140	317	280	27	282	223	227	134	95	277	68	213	8.70	337	113	345	39					
40	300	19.3	433	85	304	403	145	326	288	27	289	231	233	139	100	287	71	221	9.04	352	119	358	40					
41	300	19.8	445	87	311	418	151	339	296	28	295	239	239	144	105	298	74	229	9.35	366	126	371	41					
42	290	20.2	457	90	319	433	156	353	303	28	302	247	244	149	111	308	77	237	8.44	351	128	362	42					
43	296	20.8	469	92	327	440	161	365	311	29	309	246	248	154	116	319	80	245	8.73	364	129	397	43					
44	296	21.3	481	93	334	464	167	372	319	29	316	264	253	159	121	329	83	254	9.06	380	130	411	44					
45	294	21.8	493A	97A	342A	479	172	391	326	29	323	272	267	164	127	340	86	262	9.40	398	132	426	45					
46	292	21.9	504T	137T	440T	494	178	403	334	30	329	281	260	169	133	351	90	271	9.71	410	133	440	46					
47	291	22.4	522	140	454	509	183	414	342	30	336	269	264	174	136	362	93	280	10.04	425	135	454	47					
48	289	22.9	530	143	466	524	189	420	349	31	343	267	261	179	144	374	97	289	10.37	440	136	469	48					
49	287	23.4	508	147	482	539	194	437	357	31	350	271	184	150	150	385	100	288	10.68	455	137	483	49					
50	286	23.8	626	150	495	554	200	447	365	31	357	274	190	156	156	397	104	307	11.00	470	138	497	50					
51	284	24.3	644	154	509	570	206	458	372	32	363	276	195	163	163	408	108	316	11.37	486	140	511	51					
52	282	24.8	662	157	522	585	212	468	380	32	370	279	200	169	169	420	111	328	11.64	504	147	525	52					
53	281	25.3	680	161	535	600	217	476	388	33	377	341	282	176	176	432	116	338	12.03	517	149	539	53					
54	279	25.8	698	164	549	615	223	484	396	33	384	349	284	212	182	445	119	345	12.37	533	144	553	54					
55	278	26.3	715	167	562	630	229	498	403	33	390	285	217	189	189	457	123	354	12.70	548	146	567	55					
56	276	26.8	733	171	575	645	235	508	411	34	397	307	223	196	196	469	127	364	13.05	564	147	580	56					
57	275	27.2	751	174	588	660	241	517	419A	34A	404A	275	201	203	203	482	131	374	13.39	580	149	594	57					
58	273	27.7	769	178	600	675	246	526	534TT	129T	602T	384	234	210	210	498	136	385	13.75	590	151	608	58					
59	272	28.3	787T	181T	614T	690T	252T	539T	545T	167	591T	393T	240T	218L	208L	399L	140	612T	152T	621T	59							



ONE LANE LIVE LOAD (H20-S16-44)

**HINGE AT 1/8 POINT (0.125L)**  
**{IMPACT NOT INCLUDED}**

KAB = 3.418

## ONE LANE LIVE LOAD (H20-S16-44)

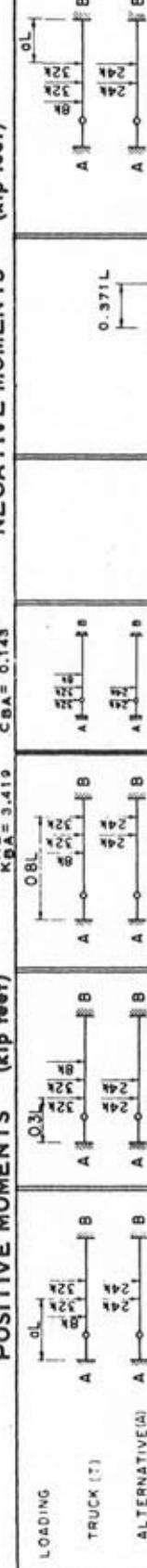
(IMPACT NOT INCLUDED)

HINGE AT 1/8 POINT (0.125L)

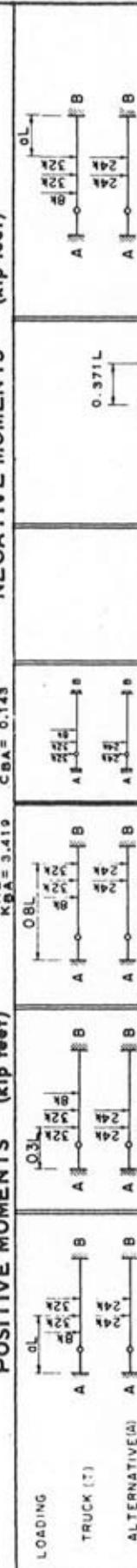
KAB = .070 CAB = 7.0

KDA = 3.419 CBA = 0.143

## POSITIVE MOMENTS (kip feet)



## NEGATIVE MOMENTS (kip feet)



## MAXIMUM NEGATIVE MOMENTS AT 0.8 POINT (kip feet)

Lane No.	Lane Length (L)	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS AT 8					
		GL PT	SL PT	SBM FEM @ 0.3L	FEM @ A	FEM @ B	SBM FEM @ 0.8L	FEM @ A	FEM @ B	SBM FEM @ 0.3L	FEM @ A	FEM @ B	SBM FEM @ 0.8L	FEM @ A	FEM @ B	SL PT	SBM FEM @ 0.3L	FEM @ A	FEM @ B	SL PT	SBM FEM @ 0.8L	FEM @ A	FEM @ B		
90	.233	43.6	1344T	2887	9907	1169T	441T	780T	902T	140T	989T	662T	328T	454T	505L	988L	299L	775L	25.02	1114T	206T	1030T	90		
91	.231	44.0	1362	292	1001	1174	447	787	914	140	1001	676	329	462	516	1001	305	789	25.39	1131	205	1042	91		
92	.230	44.5	1360	296	1013	1189	453	794	925	141	1012	685	330	470	527	1018	312	803	25.76	1147	210	1055	92		
93	.229	45.0	1398	299	1025	1205	460	801	937	141	1023	694	330	476	539	1027	318	818	26.13	1164	212	1068	93		
94	.228	45.5	1416	302	1037	1220	465	808	946	142	1035	703	331	486	550	1035	324	833	26.51	1181	214	1081	94		
95	.227	46.1	1434	305	1049	1235	471	816	960	142	1046	712	331	494	562	1073	331	847	26.88	1198	216	1094	95		
96	.226	46.6	1451	309	1060	1250	478	823	972	142	1057	721	332	502	574	1091	337	862	27.26	1215	218	1106	96		
97	.225	47.0	1469	313	1072	1265	484	830	983	143	1066	729	333	510	586	1110	344	877	27.55	1229	219	1119	97		
98	.224	47.5	1487	316	1083	1280	490	837	995	143	1080	736	333	519	598	1129	350	892	27.93	1246	222	1132	98		
99	.223	48.0	1505	320	1095	1295	496	844	1006	144	1091	747	334	527	610	1148	357	907	28.31	1263	224	1145	99		
100	.222	48.5	1523	324	1106	1310	502	851	1018	144	1102	756	334	555	623	1167	364	923	28.70	1280	226	1157	100		
101	.221	49.1	1541	326	1119	1326	509	857	1022	145	1113	761	335	554	635	1186	370	933	28.99	1295	227	1170	101		
102	.220	49.6	1559	330	1130	1341	515	864	1041	145	1124	774	335	553	646	1205	377	954	29.38	1312	229	1183	102		
103	.219	50.1	1577	333	1142	1356	521	871	1052	146	1135	783	336	561	660	1225	384	970	29.77	1330	231	1196	103		
104	.218	50.5	1595	337	1153	1371	527	878	1064	146	1147	792	336	570	673	1245	391	985	30.16	1347	234	1208	104		
105	.217	51.0	1613	341	1165	1386	534	885	1078	147	1156	801	337	579	686	1264	398	1001	30.48	1362	238	1221	105		
106	.216	51.5	1631	344	1176	1401	540	892	1087	147	1169	810	337	587	699	1284	405	1017	30.85	1379	237	1234	106		
107	.216	52.0	1649	348	1188	1416	546	899	1098	148	1180	819	338	596	713	1304	412	1034	31.24	1395	239	1246	107		
108	.215	52.5	1667	352	1199	1431	552	906	1110	148	1191	826	338	605	726	1325	420	1050	31.54	1411	241	1259	108		
109	.214	53.0	1685	355	1210	1446	558	912	1121	149	1202	837	339	614	739	1345	427	1067	31.94	1429	243	1272	109		
110	.213	53.5	1703	358	1223	1462	565	919	1133	149	1213	846	339	623	753	1366	434	1083	32.34	1446	248	1284	110		
111	.212	54.1	1721	361	1234	1477	571	926	1144	150	1224	855	339	632	767	1386	442	1100	32.63	1461	246	1297	111		
112	.211	54.5	1739	365	1246	1492	577	933	1156	150	1234	863	340	642	781	1407	449	1117	33.04	1479	249	1309	112		
113	.210	55.0	1757	369	1257	1507	583	939	1167	151	1245	872	340	651	795	1428	457	1134	33.45	1497	251	1322	113		
114	.209	55.5	1775	372	1269	1522	590	946	1179	151	1256	881	341	660	809	1449	464	1151	33.74	1512	252	1335	114		
115	.208	56.0	1793	376	1280	1537	596	953	1190	152	1267	890	341	670	823	1471	472	1168	34.16	1529	255	1347	115		
116	.207	56.5	1811	380	1291	1552	602	960	1202	152	1276	899	342	679	837	1492	480	1185	34.45	1544	256	1360	116		
117	.207	57.0	1829	383	1303	1567	606	966	1213	153	1289	905	342	689	852	1514	487	1203	34.67	1562	259	1372	117		
118	.206	57.5	1847	387	1314	1583	615	973	1225	153	1300	917	342	698	866	1535	495	1220	35.16	1577	260	1385	118		
119	.206	58.1	1865T	389T	1327T	1598T	621T	980T	1236T	154T	1311T	927T	343T	706L	881L	1557L	503L	1236L	35.58	1599T	262T	1398T	119		

February 1965



## ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)

HINGE AT 1/8 POINT (0.125L)

KAB = 7.0

CAB = 0.143

## POSITIVE MOMENTS (kip feet)

## NEGATIVE MOMENTS (kip feet)

LOADING	POSITIVE MOMENTS (kip feet)												NEGATIVE MOMENTS (kip feet)																
	MAXIMUM POSITIVE MOMENTS				MOMENTS AT 0.3 POINT				MOMENTS AT 0.6 POINT				MAXIMUM NEGATIVE MOMENTS				MOMENTS AT 0.3 POINT				MOMENTS AT 0.6 POINT				MAXIMUM NEGATIVE MOMENTS				
IMPACT	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	
TRUCK (T)																													
ALTERNATIVE (A)																													
LANE (L)																													
T	IMPACT	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM	QL	SBM	FEM	FEM
150	1.82	73.5	2422T	499T	1679T	2065T	815T	1183T	1594T	170T	1640T	1204T	353T	1037L	1398L	2310L	779L	1848L	2112L	46.95	2112T	324T	1785T	180					
151	1.81	74.0	2440	503	1690	2082	821	1190	1625	171	1661	1213	353	1049	1417	2337	789	1870	2127	47.26	2127	328	1797	151					
152	1.81	74.5	2458	506	1702	2097	828	1193	1637	171	1661	1222	353	1050	1436	2346	799	1892	2146	47.73	2146	328	1810	152					
153	1.80	75.0	2476	510	1713	2112	834	1203	1628	172	1672	1230	354	1072	1455	2391	809	1913	2162	48.04	2162	330	1822	153					
154	1.79	75.5	2494	514	1724	2127	840	1209	1640	172	1682	1239	354	1084	1474	2416	819	1935	2177	48.36	2177	331	1835	154					
155	1.79	75.0	2512	517	1735	2142	846	1215	1651	173	1693	1248	354	1096	1493	2448	829	1958	2196	48.82	2196	334	1847	155					
156	1.78	76.4	2530	521	1746	2157	853	1222	1663	174	1703	1257	355	1108	1512	2473	839	1980	2212	49.14	2212	336	1859	156					
157	1.77	76.9	2548	524	1756	2172	859	1228	1674	174	1713	1266	355	1120	1531	2500	860	2002	49.45	2227	337	1872	157						
158	1.77	77.6	2556	526	1771	2187	865	1235	1686	175	1724	1275	355	1132	1551	2526	860	2025	49.93	2247	340	1884	158						
159	1.76	78.1	2564	530	1782	2202	871	1241	1697	175	1734	1284	355	1144	1571	2555	870	2048	50.24	2262	342	1897	159						
160	1.75	78.6	2602	533	1793	2218	878	1253	1709	176	1745	1293	356	1156	1590	2584	881	2070	50.56	2278	343	1909	160						
161	1.75	79.1	2620	537	1804	2233	884	1254	1720	176	1755	1302	356	1168	1610	2612	891	2093	51.04	2297	346	1921	161						
162	1.74	79.5	2638	541	1816	2248	890	1261	1732	177	1766	1311	356	1181	1630	2640	902	2116	51.35	2312	348	1934	162						
163	1.74	80.0	2656	544	1827	2262	897	1267	1743	178	1776	1320	356	1193	1651	2669	913	2139	51.57	2326	349	1946	163						
164	1.73	80.5	2674	548	1838	2278	903	1273	1755	178	1786	1329	357	1206	1671	2697	923	2163	52.15	2347	353	1959	164						
165	1.72	81.0	2692	552	1849	2293	909	1280	1766	179	1797	1338	357	1218	1691	2726	934	2186	52.47	2363	364	1971	165						
166	-1.72	81.5	2710	555	1860	2308	915	1286	1778	179	1807	1347	357	1231	1712	2755	945	2210	52.79	2378	366	1983	166						
167	-1.71	82.0	2728	559	1871	2323	922	1293	1789	180	1817	1356	358	1243	1732	2784	956	2233	53.27	2398	369	1995	167						
168	-1.71	82.5	2746	563	1883	2339	928	1299	1797	181	1826	1365	358	1256	1753	2813	967	2257	53.56	2413	370	2006	168						
169	-1.70	83.0	2764	566	1894	2354	934	1305	1812	181	1836	1374	358	1269	1774	2843	978	2281	53.91	2429	372	2020	169						
170	-1.69	83.5	2782	570	1905	2369	941	1312	1824	182	1849	1383	358	1281	1795	2872	989	2305	54.23	2445	383	2033	170						
171	-1.69	84.0	2800	574	1916	2384	947	1318	1836	183	1859	1392	359	1294	1816	2902	1000	2329	54.72	2464	387	2045	171						
172	-1.68	84.5	2818	577	1927	2399	953	1325	1847	183	1869	1401	359	1307	1837	2932	1011	2353	55.04	2480	388	2058	172						
173	-1.68	84.9	2836	581	1938	2414	959	1331	1859	183	1880	1410	359	1320	1859	2962	1023	2376	55.36	2499	390	2070	173						
174	-1.67	85.4	2854	584	1950	2429	966	1337	1870	184	1890	1419	359	1333	1880	2992	1034	2402	55.65	2515	393	2082	174						
175	-1.67	86.1	2872	588	1963	2444	972	1344	1882	185	1900	1428	360	1346	1902	3022	1045	2427	56.17	2531	375	2095	175						
176	-1.66	86.6	2890	590	1974	2460	978	1350	1893	185	1911	1437	360	1360	1924	3052	1057	2452	56.50	2548	376	2107	176						
177	-1.66	87.1	2908	593	1985	2475	985	1356	1905	186	1921	1446	360	1373	1946	3083	1068	2476	56.82	2562	378	2119	177						
178	-1.65	87.6	2926	597	1997	2490	991	1363	1916	186	1931	1455	360	1386	1966	3114	1080	2501	57.32	2582	381	2132	178						
179	-1.64	88.1	2944T	600T	2008T	2503T	997T	1369T	1926T	187T	1942T	1464T	360T	1400L	1990L	3145L	1081L	2527L	57.64	2597T	383T	2144T	179						

February 1965

ONE LANE LIVE LOAD (H20-S16-44)

(IMPACT NOT INCLUDED)  
HINGE AT 1/8 POINT (0.1

IMPACT NOT MEASURED  
HINGE AT 1/8 POINT (0.125L)

HINGE AL 1/8 FINI 10:2234

79

### POSITIVE MOMENTS (up feet)

LOADING	TRUCK (T)	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.3 POINT						MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS @ A					
		Q.L. @ A FT	S.B.M. @ Q.L. FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT	S.B.M. @ 0.3L FT	F.E.M. @ A FT	F.E.M. @ B FT		
ALTERNATIVE(A)	A-B-A-B	162.0	2962 T	604 T	2019 T	2520 T	1003 T	1376 T	1930 T	1877 T	1982 T	1472 T	361 T	1413 T	2012 L	3176 L	1103 L	2582 L	07.06	2613 T	384 T	2156 T	180		
LANE (L)	A-B-A-B	162.0	2980 T	608 T	2020 T	2535	1010	1382	1951	188	1962	1481	361	1426	2034	3207	1115	2577	56.26	2629	386	2169	181		
		162.0	3469 L	1194 L	2555 L	2850	1016	1388	1952	189	1972	1490	361	1440	2057	3238	1127	2603	56.79	2648	389	2181	182		
		162.0	3503	1206	2580	2865	1022	1395	1974	189	1983	1499	361	1454	2080	3269	1139	2626	59.11	2664	391	2193	183		
		162.0	3536	1216	2605	2880	1029	1401	1985	190	1993	1508	362	1467	2102	3301	1151	2654	59.45	2680	392	2206	184		
		162.0	3570	1231	2631	2904	1035	1407	1997	190	2003	1517	362	1481	2128	3333	1163	2660	59.75	2696	394	2228	185		
		162.0	3605	1243	2667	2930	1041	1414	2008	191	2014	1526	362	1495	2146	3355	1175	2700	60.26	2715	397	2250	186		
		162.0	3639	1255	2695	2959	1048	1420	2020	192	2024	1535	362	1509	2171	3397	1187	2732	60.59	2731	399	2249	187		
		162.0	3674	1268	2709	2964	1054	1426	2031	192	2034	1544	363	1523	2195	3420	1199	2758	60.91	2747	400	2255	188		
		162.0	3708	1281	2735	2984	1060	1433	2043	193	2044	1553	363	1537	2218	3461	1211	2785	61.24	2763	402	2267	189		
		162.0	3743	1293	2761	3004	1066	1439	2054	193	2055	1562	363	1551	2241	3494	1224	2811	61.75	2783	405	2280	190		
		162.0	3778	1306	2787	3027	1073 T	1445 T	2066	194	2065	1571	363	1565	2265	3527	1236	2836	62.37	2798	407	2292	191		
		162.0	3813	1310	2814	3051 L	1452 L	2577 L	2077	195	2075	1580	364	1579	2289	3559	1249	2864	62.40	2814	409	2304	192		
		162.0	3848	1332	2840	3233	1466	2602	2089	195	2085	1589	364	1593	2313	3592	1261	2891	62.72	2830	410	2317	193		
		162.0	3884	1345	2867	3262	1479	2628	2100	196	2096	1598	364	1608	2337	3625	1274	2918	63.05	2846	412	2329	194		
		162.0	3919	1356	2894	3292	1493	2653	2112	196	2106	1607	364	1622	2361	3659	1286	2945	63.37	2866	415	2341	195		
		162.0	3955	1371	2921	3322	1507	2679	2124	197	2116	1616	365	1636	2385	3692	1299	2973	63.90	2882	417	2354	196		
		162.0	3991	1384	2948	3353	1521	2705	2135	197	2120	1625	365	1651	2409	3720	1312	3007	64.22	2897	419	2366	197		
		162.0	4027	1397	2975	3383	1534	2731	2147	198	2137	1634	365	1666	2434	3759	1325	3027	64.55	2913	420	2376	198		
		162.0	4064	1410	3002	3413	1548	2757	2168	199	2147	1643	365	1680	2456	3793	1337	3055	65.07	2933	424	2391	199		
		162.0	4100	1424	3030	3444	1562	2783	2170	199	2157	1652	365	1695	2483	3827	1350	3083	65.40	2949	425	2403	200		
		162.0	4137	1437	3057	3475	1576	2810	2181	200	2167	1661	366	1709	2508	3861	1363	3111	65.73	2960	427	2415	201		
		162.0	4173	1451	3085	3506	1591	2836	2193	200	2178	1670	366	1724	2533	3896	1377	3130	66.05	2981	429	2426	202		
		162.0	4210	1464	3113	3537	1605	2863	2204	201	2188	1679	366	1739	2556	3926	1390	3150	66.35	2997	430	2440	203		
		162.0	4247	1478	3141	3568	1619	2889	2216	202	2198	1688	366	1754	2583	3965	1403	3195	66.91	3017	434	2452	204		
		162.0	4284	1491	3169	3592	1633	2916	2227	202	2208	1697	367	1769	2609	3999	1416	3223	67.24	3033	436	2465	205		
		162.0	4322	1505	3197	3630	1648	2943	2239	203	2216	1706	367	1784	2634	4034	1429	3252	67.57	3049	437	2477	206		
		162.0	4359	1519	3226	3662	1662	2970	2250	203	2229	1715	367	1799	2660	4069	1443	3280	67.90	3065	439	2489	207		
		162.0	4397	1533	3254	3694	1677	2996	2262	204	2239	1724	367	1814	2685	4104	1456	3305	68.22	3081	440	2501	208		
		162.0	4435L	1546L	3283L	3725L	1691L	3025L	2273T	205T	2249T	1733T	367T	1830L	2711L	4140L	1470L	3338L	68.76	3101T	444T	2514T	209		

ONE LANE LIVE LOAD (HS20-44) <small>(IMPACT NOT INCLUDED)</small> HINGE AT 1/9 POINT (0.111L) KAB = 0.053 CAB = 8,000 CBA = 3,368 CBA = 0.125										NEGATIVE MOMENTS (KIP-FEET)										
POSITIVE MOMENTS (KIP-FEET)										MAXIMUM NEGATIVE MOMENTS AT 0.6 POINT										
LOADING	MAXIMUM POSITIVE MOMENTS					MOMENTS AT 0.3 POINT					MOMENTS AT 0.6 POINT					MAXIMUM NEGATIVE MOMENTS @ A				
	BL	SBM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	SBM	FEM	FEM	FEM	FEM	FEM	BL	SBM	FEM	FEM	
IMPACT	BL	FT	@ BL	@ A	BL	@ A	@ B	@ 0.3L	@ A	BL	@ 0.8L	@ A	@ B	@ BL	@ A	BL	SBM	FEM	FEM	
SPANNING LENGTH	IMPACT	BL	FT	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	W=0.64 k/ft.	
	30	300	14.0	314A	55A	231A	274A	93A	167A	211A	20A	221A	142A	49A	84L	58L	194L	39L	150L	9.40
	31	300	14.5	326	57	239	284	97	172	219	21	228	147	49	88	62	203	41	157	9.80
	32	300	15.0	337	59	247	294	100	176	227	21	235	152	49	92	66	212	43	164	6.62
	33	300	15.5	349	61	255	304	104	181	234	21	242	158A	50A	95	70	221	45	171	6.96
	34	300	16.0	361	63	262	314	108	185	242	22	249	164T	194T	99	74	231	48	178	7.28
	35	300	16.5	373	65	270	324A	111A	190A	250	22	256	171	203	103	79	240	50	186	7.59
	36	300	17.0	385	67	278	349T	108T	298T	257	22	263	178	210	107	83	250	52	194	7.96
	37	300	17.5	397	69	285	363	113	308	265	23	270	185	217	111	88	259	55	201	8.25
	38	300	18.0	409	72	293	376	117	317	273	23	277	192	224	115	93	269	57	209	8.59
	39	300	18.5	421	73	301	390	122	326	280	23	284	199	230	119	97	279	60	217	8.93
	40	300	19.0	433	76	308	403	126	336	288	24	326	291	207	123	103	289	63	225	9.24
	41	300	19.5	445	78	316	418	131	350	296	24	322	298	214	128	108	300	65	234	9.28
	42	299	19.9	457	80	324	433	135	364	303	24	305	221	245	132	113	310	68	242	8.61
	43	298	20.5	469	82	331	449	140	377	311	25	312	229	249	136	118	321	71	250	8.94
	44	296	20.9	481A	84A	339A	464	144	390	319	25	319	235	254	141	124	332	74	259	9.28
	45	294	21.1	537T	119T	435T	479	149	403	326	25	325	244	257	145	130	342	77	268	9.58
	46	292	21.6	555	122	449	494	154	45	334	26	332	251	261	150	136	354	80	277	9.94
	47	291	22.0	573	125	463	509	159	427	342	26	339	259	265	154	142	365	83	286	10.25
	48	289	22.5	591	128	477	524	164	430	349	26	346	266	268	159	148	376	86	295	10.61
	49	287	23.0	609	131	491	539	168	450	357	27	353	274	271	164	154	388	89	304	10.93
	50	286	23.4	627	134	505	554	173	461	365	27	359	282	274	168	160	399	92	313	11.25
	51	284	23.9	645	137	519	570	178	472	372	27	366	289	276	173	167	411	95	323	11.58
	52	282	24.4	663	139	532	585	183	483	380	28	373	297	279	178	173	423	99	333	11.96
	53	281	24.0	681	143	556	600	188	493	388	28	380	305	281	183	180	435	102	342	12.30
	54	279	25.4	699	146	559	615	193	504	396A	28A	387A	313	284	188	187	447	105	352	12.64
	55	278	25.8	717	149	572	630	198	514	499T	111T	573T	320	286	193	194	460	109	362	12.98
	56	276	26.3	734	152	585	645	203	524	511	112	586	328	288	198	201	472	112	372	13.33
	57	275	26.8	752	155	598	660	208	534	522	112	599	336	290	203	208	485	116	383	13.68
	58	273	27.3	770	158	611	675	213	543	534	112	612	343	292	208	215	498	120	393	14.04
	59	272	27.8	788T	161T	624T	690T	219T	553T	545T	112T	625T	351T	294T	213L	223L	511L	123L	404L	14.40
																			620T	

IMPACT SPANNING FEET	IMPACT SPANNING FEET	POSITIVE MOMENTS (KIP FEET)						NEGATIVE MOMENTS (KIP FEET)					
		TRUCK (T)	ALTERNATIVE (A)	LANE (L)	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	
60	270	28.3	806T	164T	637T	706T	224T	562T	557T	112T	638T	359T	295T
61	269	28.7	824	167	650	721	229	572	568	112	651	367	297
62	267	29.3	842	170	663	736	234	581	580	113	664	375	298
63	266	29.7	860	173	675	751	239	590	591	113	677	382	300
64	265	30.2	878	176	688	766	244	599	603	113	689	390	301
65	263	30.7	896	179	701	781	249	608	614	113	702	398	303
66	262	31.2	914	182	713	796	255	617	626	113	715	406	304
67	260	31.7	932	185	726	811	260	625	637	114	727	414	305
68	259	32.2	950	188	738	827	265	634	649	114	740	422	307
69	258	32.6	967	191	751	842	270	643	660	114	752	429	308
70	256	33.1	985	195	763	857	276	651	672	114	764	437	309
71	255	33.6	1003	198	775	872	281	659	684	115	776	445	310
72	254	34.1	1021	200	788	887	286	668	695	115	789	453	311
73	253	34.6	1039	204	800	902	291	670	707	115	801	461	312
74	251	35.1	1057	207	812	917	297	684	718	116	813	469	313
75	250	35.5	1075	210	824	932	302	693	730	116	825	477	314
76	249	36.0	1093	213	836	948	307	701	741	116	837	485	315
77	248	36.6	1111	216	849	963	312	709	753	116	849	493	316
78	246	37.0	1129	219	861	978	318	717	764	117	861	500	316
79	245	37.5	1147	222	873	993	323	725	776	117	873	508	317
80	244	38.0	1165	225	885	1009	328	733	787	117	885	516	318
81	243	38.5	1183	229	897	1023	334	741	799	118	896	524	319
82	241	38.9	1201	232	909	1038	339	749	810	118	908	532	320
83	240	39.5	1219	234	922	1053	344	756	822	118	920	540	320
84	239	40.0	1237	237	934	1068	350	764	833	119	932	548	321
85	238	40.5	1255	241	946	1084	355	772	845	119	943	556	322
86	237	40.9	1272	244	957	1099	360	780	856	119	955	564	322
87	236	41.4	1290	247	969	1114	366	787	868	120	966	572	323
88	235	41.9	1308	250	981	1129	371	795	879	120	978	580	324
89	234	42.5	1326T	253T	994T	1144T	376T	803T	891T	120T	990T	589T	324T

LOADING		POSITIVE MOMENTS (KIP FEET)												NEGATIVE MOMENTS (KIP FEET)												
		HINGE AT 1/9 POINT (0.111L)						W=0.64 K/FT.						W=0.64 K/FT.						W=0.64 K/FT.						
IMPACT FACT	PAN IN	MAXIMUM POSITIVE MOMENTS		MOMENTS AT 0.3 POINT		MOMENTS AT 0.6 POINT		MAXIMUM NEGATIVE MOMENTS @ A		MAXIMUM NEGATIVE MOMENTS @ B		FEM @ A		FEM @ B		FEM @ A		FEM @ B		FEM @ A		FEM @ B		FEM @ A		
		al	bl	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	al	bl	SBM	FEM	al	bl	SBM	FEM	al	bl	SBM	FEM	al	bl	
TRUCK (T)	A	1344T	256T	1006T	1159T	382T	810T	902T	121T	1001T	595T	325T	410	518L	989L	265L	1007	271	808	25.56	1127T	163T	1046T	90		
ALTERNATIVE (A)	A	1362	259	1017	1174	387	818	914	121	1012	603	325	410	541	1025	276	822	26.22	1158	186	1059	185	1059	1059	1059	1059
LANE (L)	A	1380	262	1029	1189	392	825	925	122	1024	611	326	417	553	1043	282	837	26.60	1175	188	1085	193	1085	1085	1085	1085
W=0.64 K/FT.		1398	266	1041	1205	398	833	937	122	1035	619	326	424	565	1062	287	852	26.98	1192	189	1098	194	1098	1098	1098	1098
W=0.64 K/FT.		1416	269	1053	1220	403	840	948	122	1047	627	327	431	577	1080	293	867	27.36	1209	191	1111	195	1111	1111	1111	1111
W=0.64 K/FT.		1434	272	1064	1235	408	848	960	123	1058	635	327	438	589	1099	299	883	27.74	1226	193	1124	196	1124	1124	1124	1124
W=0.64 K/FT.		1452	274	1077	1250	414	855	972	123	1069	643	328	445	601	1117	305	898	28.13	1243	195	1137	197	1137	1137	1137	1137
W=0.64 K/FT.		1470	278	1089	1265	419	863	983	123	1081	651	328	453	614	1136	310	914	28.42	1258	196	1150	198	1150	1150	1150	1150
W=0.64 K/FT.		1488	281	1100	1280	425	870	995	124	1092	659	329	460	626	1155	316	929	28.81	1275	198	1163	199	1163	1163	1163	1163
W=0.64 K/FT.		1506	284	1112	1295	430	878	1006	124	1103	667	329	468	633	1173	322	939	29.16	1292	200	1176	200	1176	1176	1176	1176
W=0.64 K/FT.		1524	287	1124	1310	435	885	1018	125	1114	675	330	475	649	1174	322	945	29.20	1292	200	1176	200	1176	1176	1176	1176
W=0.64 K/FT.		1542	291	1135	1326	441	892	1029	125	1126	683	330	483	652	1194	328	961	29.59	1310	202	1189	201	1189	1189	1189	1189
W=0.64 K/FT.		1560	294	1147	1341	446	900	1041	125	1137	691	331	490	665	1213	334	977	29.89	1314	203	1202	202	1202	1202	1202	1202
W=0.64 K/FT.		1578	297	1159	1356	451	907	1052	126	1148	699	331	498	678	1233	340	993	30.28	1342	205	1215	203	1215	1215	1215	1215
W=0.64 K/FT.		1596	299	1171	1371	457	914	1064	126	1159	706	332	506	691	1253	347	1009	30.68	1359	207	1228	204	1228	1228	1228	1228
W=0.64 K/FT.		1614	302	1183	1386	462	922	1075	127	1170	714	332	513	704	1273	353	1026	31.08	1376	209	1240	205	1253	1253	1253	1253
W=0.64 K/FT.		1632	306	1194	1401	468	929	1087	127	1181	722	332	521	718	1293	359	1042	31.38	1391	210	1253	206	1266	1266	1266	1266
W=0.64 K/FT.		1650	309	1206	1416	473	936	1098	128	1192	730	333	529	731	1313	365	1059	31.78	1409	212	1279	214	1279	1279	1279	1279
W=0.64 K/FT.		1668	312	1229	1446	484	951	1121	128	1215	746	334	545	759	1354	378	1092	32.16	1426	214	1292	215	1292	1292	1292	1292
W=0.64 K/FT.		1686	315	1229	1446	484	951	1121	128	1215	746	334	545	763	1354	378	1092	32.48	1442	215	1305	217	1305	1305	1305	1305
W=0.64 K/FT.		1704	319	1241	1462	489	958	1133	129	1226	754	334	553	773	1374	385	1109	32.89	1459	217	1317	219	1317	1317	1317	1317
W=0.64 K/FT.		1722	322	1252	1477	495	965	1144	129	1237	762	334	561	787	1395	391	1127	33.30	1477	219	1330	220	1330	1330	1330	1330
W=0.64 K/FT.		1739	325	1264	1492	500	972	1156	130	1248	770	335	569	801	1416	398	1144	33.60	1492	220	1381	228	1381	1381	1381	1381
W=0.64 K/FT.		1757	327	1277	1507	505	979	1167	130	1259	778	335	577	815	1437	405	1161	34.01	1510	222	1343	223	1343	1343	1343	1343
W=0.64 K/FT.		1775	330	1288	1522	511	986	1179	130	1270	786	335	586	830	1459	411	1179	34.31	1525	223	1356	223	1356	1356	1356	1356
W=0.64 K/FT.		1793	334	1300	1537	516	994	1190	131	1280	794	336	594	845	1480	418	1196	34.73	1542	225	1369	225	1369	1369	1369	1369
W=0.64 K/FT.		1811	337	1311	1552	522	1001	1202	131	1291	802	336	602	859	1502	425	1214	35.15	1560	228	1381	228	1381	1381	1381	1381
W=0.64 K/FT.		1829	340	1323	1567	527	1008	1213	132	1302	810	336	611	874	1523	432	1232	35.45	1575	229	1394	229	1394	1394	1394	1394
W=0.64 K/FT.		1847	343	1334	1583	532	1015	1225	132	1313	818	337	619	889	1545	439	1250	35.87	1593	231	1407	231	1407	1407	1407	1407
W=0.64 K/FT.		1865	347	1345T	1598T	538T	1022T	1235T	133T	1324T	826T	337T	628L	904L	1567L	446L	1268L	36.18	1609T	232T	1420T	232	1420T	1420T	1420T	1420T

LOADING	POSITIVE MOMENTS (KIP·FEET)										NEGATIVE MOMENTS (KIP·FEET)												
	HINGE AT 1/9 POINT (0.111L)					0.8L					0.8L					0.8L							
TRUCK (T)	MAXIMUM POSITIVE MOMENTS		MOMENTS AT 0.3 POINT		MOMENTS AT 0.8 POINT		MAXIMUM NEGATIVE MOMENTS		FEM	FEM	FEM	FEM	FEM	FEM	FEM	MAXIMUM NEGATIVE MOMENTS		FEM	FEM	FEM			
	uL	SBM	FEM	FEM	SBM	FEM	FEM	FEM	@ A	@ B	@ A	@ B	@ A	@ B	@ A	FEM	FEM	uL	SBM	FEM			
120	204	57.6	1883T	350T	1357T	1613T	543T	1029T	1248T	133T	1335T	834T	636L	919L	1590L	453L	1287L	36.60	1627T	234T	1432T	120	
121	203	58.1	1901	353	1369	1628	549	1036	1260	134	1366	842	338	645	935	1612	460	1305	36.90	1632	235	1445	121
122	202	58.7	1919	355	1382	1643	554	1043	1271	134	1357	850	338	654	950	1634	467	1324	37.33	1660	238	1458	122
123	202	59.2	1937	358	1393	1658	560	1050	1283	134	1367	858	338	663	966	1657	474	1342	37.64	1675	239	1471	123
124	201	59.6	1955	362	1405	1673	565	1057	1294	135	1378	866	339	671	982	1680	480	1361	38.07	1693	241	1483	124
125	200	60.1	1973	365	1416	1688	570	1064	1306	135	1389	874	339	680	998	1703	489	1380	38.50	1711	243	1496	125
126	199	60.6	1991	368	1427	1704	576	1071	1317	136	1400	882	339	689	1014	1726	496	1399	38.81	1727	245	1509	126
127	199	61.1	2009	371	1439	1719	581	1078	1329	136	1411	889	340	698	1030	1749	504	1418	39.24	1745	247	1521	127
128	198	61.6	2027	375	1450	1734	587	1085	1340	137	1421	897	340	707	1046	1773	511	1438	39.55	1760	248	1534	128
129	197	62.0	2045	378	1462	1749	592	1092	1352	137	1432	905	340	716	1062	1796	519	1457	39.86	1776	249	1547	129
130	196	62.5	2063	381	1473	1764	597	1099	1363	138	1443	913	340	725	1079	1820	527	1477	40.30	1794	252	1559	130
131	195	63.0	2081	384	1485	1779	603	1106	1375	138	1454	921	341	735	1095	1844	534	1496	40.61	1809	253	1572	131
132	195	63.5	2099	388	1496	1794	608	1113	1386	139	1464	929	341	744	1112	1868	542	1516	41.05	1828	255	1585	132
133	194	64.0	2117	391	1507	1809	614	1120	1398	139	1475	937	341	753	1129	1892	550	1536	41.36	1843	257	1597	133
134	193	64.6	2135	393	1521	1824	619	1127	1409	139	1486	945	341	763	1146	1916	558	1556	41.81	1861	259	1610	134
135	192	65.1	2153	396	1532	1840	625	1134	1421	140	1496	953	342	772	1163	1941	565	1576	42.12	1877	260	1623	135
136	192	65.6	2171	399	1543	1855	630	1141	1432	140	1507	961	342	781	1181	1965	573	1597	42.57	1895	263	1635	136
137	191	66.0	2189	402	1555	1870	635	1148	1444	141	1518	969	342	791	1198	1990	581	1617	42.98	1911	264	1648	137
138	190	66.5	2207	406	1566	1885	641	1155	1455	141	1528	977	342	801	1216	2015	589	1638	43.33	1929	266	1661	138
139	189	67.0	2225	409	1579	1900	646	1162	1467	142	1539	985	343	810	1233	2040	598	1658	43.65	1945	268	1673	139
140	189	67.5	2243	412	1589	1915	652	1169	1478	142	1550	993	343	820	1251	2065	606	1679	43.96	1960	269	1686	140
141	188	68.0	2261	415	1600	1930	657	1176	1490	143	1560	1001	343	830	1269	2090	614	1700	44.41	1979	271	1699	141
142	187	68.4	2279	418	1612	1945	663	1183	1501	143	1571	1009	343	839	1287	2116	622	1721	44.73	1994	273	1711	142
143	187	68.9	2297	422	1623	1961	668	1190	1513	144	1581	1017	344	849	1305	2141	621	1742	45.19	2013	275	1724	143
144	186	69.4	2315	425	1635	1976	674	1197	1524	144	1592	1025	344	859	1323	2167	639	1764	45.50	2029	276	1737	144
145	185	69.9	2333	428	1646	1991	679	1204	1536	145	1603	1033	344	869	1342	2193	647	1785	45.82	2044	278	1749	145
146	185	70.4	2351	431	1657	2006	684	1211	1548	145	1613	1041	344	879	1360	2219	656	1807	46.28	2063	280	1762	146
147	184	71.0	2369	433	1671	2021	690	1217	1559	146	1624	1049	345	889	1379	2246	664	1829	46.60	2079	282	1774	147
148	183	71.5	2387	436	1682	2036	695	1224	1571	146	1634	1057	345	899	1398	2272	673	1850	47.06	2097	284	1787	148
149	182	72.0	2405T	440T	1693T	2051T	701T	1231T	1582T	147T	1645T	1065T	345T	910L	1417L	2299L	682L	1872L	47.38	2113T	285T	1800T	149

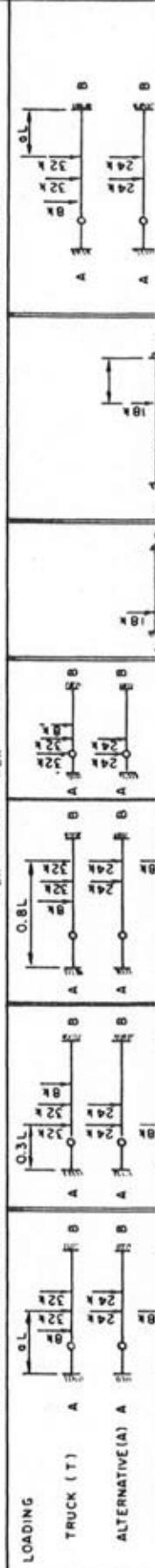
## ONE LANE LIVE LOAD (HS20-44)

IMPACT NOT INCLUDED

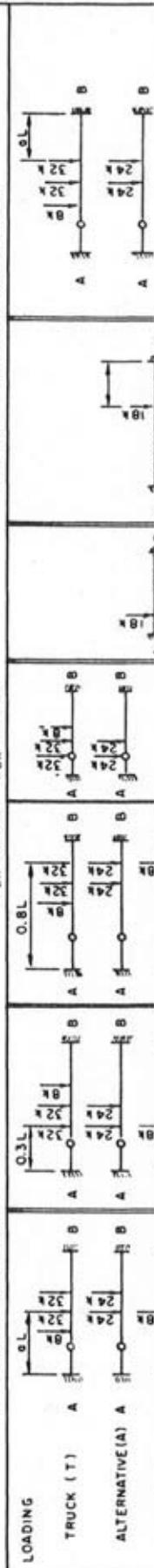
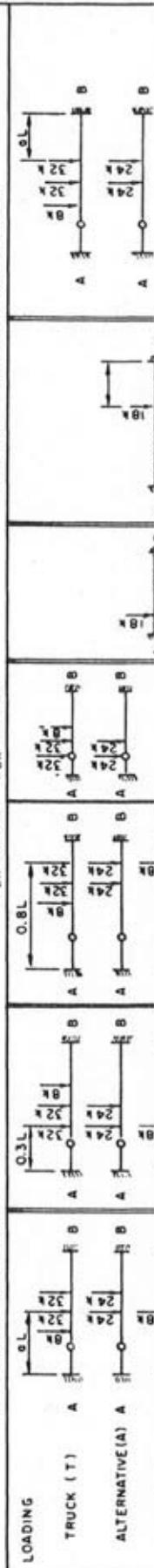
HINGE AT 1/9 POINT (0.111L)

 $K_{AB} = 0.053$  $C_{AB} = 8,000$  $K_{BA} = 3,368$  $C_{BA} = 0,125$ 

## POSITIVE MOMENTS (KIP-FEET)



## NEGATIVE MOMENTS (KIP-FEET)



LOADING	MAXIMUM POSITIVE MOMENTS												MAXIMUM NEGATIVE MOMENTS											
	TRUCK (T)			ALTERNATIVE(A)			LANE (L)			MOMENTS AT 0.3 POINT			MOMENTS AT 0.8 POINT			MOMENTS AT 0.8 POINT			MAXIMUM NEGATIVE MOMENTS			MAXIMUM NEGATIVE MOMENTS AT B		
SPANNING LENGTH	xL FT	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM	xL	SBM	FEM
150	182	72.4	2423 T	1705 T	2066 T	706 T	1289 T	1594 T	147 T	1655 T	1073 T	345 T	920 L	1436 L	2325 L	690 L	1895 L	4770	2129 T	287 T	1812 T	150		
151	181	72.9	2441	446	1716	2082	712	1245	1605	148	1666	1081	346	930	1455	2152	699	1917	4817	2147	289	1825	151	
152	181	73.4	2459	449	1727	2097	717	1252	1617	148	1677	1089	346	941	1474	2379	708	1939	4849	2163	291	1837	152	
153	180	73.9	2477	453	1739	2112	722	1259	1628	149	1687	1097	346	951	1494	2406	717	1962	4881	2179	292	1850	153	
154	179	74.4	2495	456	1750	2127	728	1266	1640	149	1698	1105	346	961	1513	2434	726	1984	4928	2198	295	1863	154	
155	179	74.9	2512	459	1761	2142	733	1272	1651	149	1708	1113	346	972	1533	2461	735	2007	4960	2213	296	1875	155	
156	178	75.3	2530	462	1773	2157	739	1279	1663	150	1719	1121	347	983	1553	2489	744	2030	4992	2229	297	1888	156	
157	177	75.8	2548	465	1784	2172	744	1286	1674	150	1729	1129	347	993	1573	2516	753	2053	5040	2248	300	1900	157	
158	177	76.3	2566	469	1795	2187	750	1293	1686	151	1740	1137	347	1004	1593	2544	762	2076	5072	2264	301	1913	158	
159	176	76.8	2584	472	1807	2202	755	1300	1697	151	1750	1144	347	1015	1613	2572	771	2099	5104	2279	303	1926	159	
160	175	77.3	2602	475	1818	2218	761	1307	1709	152	1761	1152	347	1025	1633	2600	781	2123	5152	2299	305	1938	160	
161	175	77.8	2620	478	1829	2233	766	1313	1720	152	1771	1160	348	1036	1654	2629	790	2146	5184	2314	307	1951	161	
162	174	78.4	2638	480	1843	2248	771	1320	1732	153	1781	1168	348	1047	1674	2657	799	2170	5216	2330	308	1963	162	
163	174	78.9	2656	483	1854	2263	777	1327	1743	153	1792	1176	348	1058	1695	2686	809	2194	5265	2349	311	1976	163	
164	173	79.4	2674	486	1866	2278	782	1334	1755	154	1802	1184	348	1069	1716	2715	818	2217	5297	2365	312	1988	164	
165	172	79.9	2692	490	1877	2293	788	1341	1766	154	1813	1192	349	1080	1737	2744	828	2242	5329	2381	314	2001	165	
166	172	80.3	2710	493	1888	2308	793	1348	1778	155	1823	1200	349	1091	1758	2773	837	2266	5378	2400	316	2014	166	
167	171	80.8	2728	496	1900	2323	799	1354	1789	155	1834	1208	349	1103	1779	2812	847	2290	5411	2416	318	2026	167	
168	171	81.3	2746	499	1911	2339	804	1361	1801	156	1844	1216	349	1114	1801	2812	857	2314	5443	2432	319	2039	168	
169	170	81.8	2764	502	1922	2354	810	1368	1812	156	1855	1224	349	1125	1822	2861	866	2339	5476	2447	320	2051	169	
170	169	82.3	2782	506	1934	2369	815	1375	1824	157	1865	1232	349	1135	1844	2891	876	2354	5525	2467	323	2064	170	
171	169	82.8	2800	509	1945	2384	821	1382	1836	157	1875	1240	350	1148	1865	2921	886	2388	5557	2483	325	2076	171	
172	168	83.2	2818	512	1956	2399	826	1398	1847	158	1886	1248	350	1159	1887	2951	896	2413	5590	2498	326	2089	172	
173	168	83.7	2836	515	1968	2414	831	1395	1859	158	1896	1256	350	1171	1909	2981	906	2438	5640	2518	329	2101	173	
174	167	84.2	2854	519	1979	2429	837	1402	1870	159	1907	1264	350	1182	1931	3011	916	2463	5672	2534	330	2114	174	
175	167	84.7	2872	522	1990	2444	842	1409	1882	159	1917	1272	350	1194	1954	3042	926	2489	5705	2549	332	2126	175	
176	166	85.2	2890	525T	2002T	2460	848	1416	1893	160	1927	1280	351	1206	1976	3072	936	2514	5738	2565	333	2139	176	
177	166	87.6	3302L	1003L	2475	853	1422	1905	160	1938	1288	351	1217	1998	3103	947	2540	5788	2585	336	2151	177		
178	165	88.1	3335	1014	2518	2480	859	1429	1916	161	1948	1296	351	1229	2021	3134	957	2565	5821	2601	337	2164	178	
179	164	88.6	3368L	1025L	2505T	2505T	864T	1436T	1923T	161T	1948T	1304T	351T	1241L	2044L	3165L	967L	2591L	5853	2617T	339T	2177T	179	

LOADING		POSITIVE MOMENTS (KIP-FEET)												NEGATIVE MOMENTS (KIP-FEET)												
		MOMENTS AT 0.3 POINT				MOMENTS AT 0.8 POINT				MAXIMUM NEGATIVE MOMENTS @ A				MAXIMUM NEGATIVE MOMENTS @ B				MAXIMUM NEGATIVE MOMENTS @ A				MAXIMUM NEGATIVE MOMENTS @ B				
IMPACT FEEt IN SPAN	AL FT	SBM inL	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	SBM @ B	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	SBM @ B	FEM @ A	FEM @ B				
TRUCK (T)	A	W=0.64 k/ft.	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L		
ALTERNATIVE(A)	A	W=0.64 k/ft.	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L		
LANE (L)	A	W=0.64 k/ft.	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L		
W=0.64 k/ft.																										
IMPACT FEEt IN SPAN	AL FT	SBM inL	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	SBM @ B	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	SBM @ B	FEM @ A	FEM @ B	SBM @ A	FEM @ A	FEM @ B	
180	164	89.1	3402L	1035L	2570L	2520T	870T	1443T	1939T	162T	1969T	1312T	351T	1253L	2067L	977L	2617L	58.86	2632T	340T	2189T	180				
181	163	89.6	3435	1046	2595	2535	875	1449	1951	162	1979	1320	352	1265	2090	988	2327	59.37	2652	343	2202	181				
182	163	90.1	3469	1057	2621	2550	880	1456	1962	163	1990	1328	352	1277	2113	3259	998	2669	59.70	2668	344	2214	182			
183	162	90.6	3502	1068	2647	2565	886	1453	1974	163	2000	1336	352	1289	2136	3291	1009	2696	60.02	2684	346	2227	183			
184	162	91.1	3536	1079	2674	2780	891	1460	1985	164	2010	1344	352	1301	2159	3322	1019	2722	60.35	2700	347	2239	184			
185	161	91.6	3570	1090	2700	2796	897	1477	1997	164	2021	1352	352	1313	2183	3354	1030	2749	60.86	2719	350	2252	185			
186	161	92.1	3604	1101	2726	2811T	902T	2008	165	2031	1360	352	1326	2207	3387	1041	2775	61.19	2735	352	2264	186				
187	160	92.6	3639	1112	2753	2857L	1221L	2553L	2020	165	2041	1368	353	1338	2220	3419	1052	2802	61.52	2751	353	2277	187			
188	160	93.1	3663	1123	2780	3086	1233	2558	2031	166	2052	1376	353	1350	2234	3451	1062	2829	61.95	2767	354	2289	188			
189	159	93.6	3708	1134	2806	3115	1245	2584	2043	166	2062	1384	353	1363	2278	3484	1073	2856	62.37	2787	358	2302	189			
190	159	94.1	3743	1145	2833	3144	1257	2609	2054	167	2072	1392	353	1375	2302	3516	1084	2883	62.70	2803	359	2314	190			
191	158	94.6	3778	1156	2850	3174	1268	2635	2066	167	2082	1400	353	1388	2327	3549	1095	2911	63.03	2819	360	2327	191			
192	158	95.0	3813	1168	2888	3203	1280	2661	2077	168	2093	1408	353	1400	2351	3582	1106	2938	63.36	2835	362	2339	192			
193	157	95.5	3848	1179	2915	3225	1341	2793	2135	171	2144	1446	354	1413	2376	3616	1117	2966	63.88	2855	365	2352	193			
194	157	96.0	3883	1191	2942	3262	1304	2714	2100	169	2113	1424	354	1425	2400	3649	1128	2993	64.21	2871	366	2364	194			
195	156	96.5	3919	1202	2970	3292	1316	2740	2112	170	2124	1432	354	1438	2425	3682	1140	3021	64.54	2887	368	2377	195			
196	156	97.0	3955	1214	2998	3322	1329	2767	2124	170	2134	1440	354	1451	2450	3716	1151	3049	64.88	2903	369	2389	196			
197	155	97.5	3991	1225	3025	3353	1341	2793	2135	171	2144	1448	354	1464	2475	3750	1162	3077	65.40	2923	372	2402	197			
198	155	98.0	4027	1237	3053	3383	1353	2820	2147	171	2155	1456	354	1477	2500	3784	1174	3106	65.74	2939	374	2414	198			
199	154	98.5	4063	1249	3081	3413	1365	2847	2158	172	2165	1464	355	1489	2525	3818	1185	3134	66.07	2955	375	2427	199			
200	154	99.0	4100	1261	3110	3444	1378	2874	2170	172	2175	1472	355	1503	2551	3852	1196	3162	66.40	2970	377	2439	200			
201	153	99.5	4136	1272	3138	3475	1390	2901	2181	173	2185	1479	355	1516	2576	3886	1208	3191	66.73	2986	378	2452	201			
202	153	100.0	4173	1284	3166	3506	1403	2928	2193	173	2196	1487	355	1529	2602	3921	1220	3220	67.27	3007	381	2464	202			
203	152	100.5	4210	1296	3195	3537	1415	2956	2204	174	2206	1495	355	1542	2628	3955	1231	3249	67.60	3023	383	2477	203			
204	152	101.0	4247	1308	3224	3568	1428	2983	2216	174	2216	1503	355	1555	2654	3990	1243	3278	67.93	3039	384	2489	204			
205	152	101.5	4284	1320	3253	3599	1441	3011	2227	175	2227	1511	356	1569	2680	4025	1255	3307	68.26	3055	386	2502	205			
206	151	102.0	4321	1333	3282	3630	1453	3039	2239	175	2237	1519	356	1582	2706	4050	1266	3336	68.60	3071	387	2514	206			
207	151	102.5	4359	1345	3311	3662	1466	3067	2250	176	2247	1527	356	1595	2732	4096	1278	3365	69.14	3091	390	2527	207			
208	150	103.0	4397	1357	3340	3694	1479	3095	2262	176	2257	1535	356	1609	2759	4131	1290	3395	69.47	3107	392	2539	208			
209	150	103.5	4435L	1369L	3369L	3725L	1492L	3123L	2273T	177T	2268T	1543T	3565	1622L	2785L	4167L	1302L	3424L	69.81	3123T	393T	2552T	209			

ONE LANE LIVE LOAD (HS20-44)

HINGE AT 10 POINT (0.100L)  
IMPACT NOT INCLUDED

$\text{KAB} = 0.041$   
 $\text{KBA} = 3.329$

POSITIVE MOMENTS (KIP.FEET)

ONE LANE LIVE LOAD (HS20-44)										NEGATIVE MOMENTS (KIP-FEET)											
LOADING	TRUCK (T)	POSITIVE MOMENTS (KIP-FEET)				MOMENTS AT 0.3 POINT				MOMENTS AT 0.8 POINT				MAXIMUM NEGATIVE MOMENTS & A				MAXIMUM NEGATIVE MOMENTS AT B			
		0.3L ft	0.3L # ft	SBM # ft	FEM # ft	0.3L ft	SBM # ft	FEM # ft	0.8L ft	SBM # ft	FEM # ft	0.8L ft	SBM # ft	FEM # ft	0.8L ft	SBM # ft	FEM # ft	0.8L ft	SBM # ft	FEM # ft	
<small>IMPACT NOT INCLUDED! HINGE AT 1.10 POINT (10.100L) <math>K_{AB} = 0.041</math>   <math>C_{AB} = 9.000</math> <math>K_{BA} = 3.329</math>   <math>C_{BA} = 0.111</math></small>																					
ALTERNATIVE (A)	A	0.3L	0.3L	SBM	FEM	0.3L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	
LANE (L)	A	0.3L	0.3L	SBM	FEM	0.3L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	0.8L	SBM	FEM	
MAXIMUM POSITIVE MOMENTS																					
IMPACT	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	
0.270	27.8	806T	148T	646T	706T	197T	577T	99T	646T	325T	295T	197L	235L	526L	114L	422L	14.94	641T	121T	656T	
6.1	269	28.4	824	151	659	721	202	586	568	99	659	332	296	201	243	540	117	433	15.31	657	
6.2	267	28.8	842	153	672	736	206	596	580	99	672	339	298	206	251	553	121	444	15.69	674	
6.3	266	29.3	860	156	684	751	211	605	591	99	685	346	299	211	259	567	124	455	16.06	690	
6.4	265	29.8	878	159	697	766	215	615	603	100	698	353	301	216	268	581	128	466	16.38	706	
6.5	263	30.3	896	161	710	781	220	624	614	100	710	360	302	221	276	595	132	478	16.77	723	
6.6	262	30.8	914	164	723	796	225	633	626	100	723	367	303	226	285	609	135	490	17.09	738	
6.7	260	31.2	932	167	735	811	229	642	637	100	735	374	304	231	293	623	139	501	17.49	755	
6.8	259	31.7	950	170	748	827	234	651	649	100	748	381	306	236	302	638	143	513	17.82	771	
6.9	258	32.2	968	173	760	842	238	660	660	101	760	388	307	241	311	652	147	525	18.22	788	
7.0	256	32.7	986	175	773	857	243	669	672	101	773	395	308	247	320	667	150	538	18.55	804	
7.1	255	33.2	1004	178	785	872	248	678	684	101	785	402	309	252	329	682	154	550	18.96	821	
7.2	254	33.6	1021	181	798	887	252	686	695	101	797	409	310	257	339	697	158	562	19.30	837	
7.3	253	34.1	1039	184	810	902	257	695	707	102	810	416	311	263	348	712	162	575	19.64	853	
7.4	251	34.6	1057	187	822	917	262	703	718	102	822	424	312	268	358	727	166	588	20.05	870	
7.5	250	35.0	1075	190	834	932	266	712	730	102	834	431	312	274	367	743	170	600	20.40	887	
7.6	249	35.6	1093	192	847	948	271	720	741	102	846	438	313	279	377	759	175	613	20.75	903	
7.7	248	36.0	1111	195	859	963	276	729	753	103	858	445	314	285	387	774	179	626	21.10	919	
7.8	246	36.5	1129	198	872	978	280	737	764	103	870	452	315	290	397	790	183	640	21.45	935	
7.9	245	37.0	1147	201	884	993	285	746	776	103	882	459	316	296	408	806	187	653	21.88	953	
8.0	244	37.4	1165	204	896	1008	290	754	787	103	894	466	316	302	418	823	192	666	22.24	969	
8.1	243	38.0	1183	206	909	1023	294	762	799	104	905	473	317	308	428	839	196	680	22.60	986	
8.2	241	38.5	1201	209	918	1038	299	770	810	104	917	480	318	313	439	856	201	694	23.96	1002	
8.3	240	38.9	1219	212	923	1053	304	778	822	104	929	488	319	318	450	872	205	708	23.32	1019	
8.4	239	39.4	1237	215	945	1068	308	787	833	105	941	495	319	325	461	889	210	722	23.69	1035	
8.5	238	39.9	1255	217	957	1084	313	795	845	105	952	502	320	331	472	906	214	736	24.05	1052	
8.6	237	40.3	1272	220	969	1099	318	803	856	105	964	509	320	337	483	923	219	750	24.42	1068	
8.7	236	40.9	1290	222	981	1114	322	811	868	105	976	516	321	343	494	941	224	764	24.79	1085	
8.8	235	41.4	1308	225	993	1129	327	819	879	106	987	523	321	349	506	958	228	779	25.17	1102	
8.9	234	41.8	1326T	228T	1005T	1144T	332T	827T	891T	106T	999T	530T	322T	351T	556L	976L	233L	794L	25.54	1118T	

IMPACT FFFECT	POSITIVE MOMENTS (KIP·FEET)											NEGATIVE MOMENTS (KIP·FEET)											SPAN IN FT																													
	TRUCK ( T )						ALTERNATIVE (A)						LANE ( L )						MAXIMUM POSITIVE MOMENTS							MOMENTS AT 0.3 POINT							MOMENTS AT 0.8 POINT							MAXIMUM NEGATIVE MOMENTS							MAXIMUM NEGATIVE MOMENTS AT B					
	HL	SBM	FEM	FEM	SBM	SBM	HL	SBM	FEM	FEM	SBM	SBM	HL	SBM	FEM	FEM	HL	SBM	FEM	FEM	HL	SBM	FEM	FEM	HL	SBM	FEM	FEM	HL	SBM	FEM	FEM																				
90	233	42.3	1344T	231T	1017T	1159T	337T	835T	902T	106T	1010T	537T	323T	545	323	368	561	10.1	243	993L	238L	808L	25.92	1135T	164T	1060T	90																									
91	231	42.8	1362	234	1029	1174	341	843	914	107	1022	545	323	552	324	375	553	1029	248	838	26.30	1152	166	1073	91																											
92	230	43.2	1380	237	1041	1189	346	850	925	107	1033	552	324	559	324	381	565	1048	253	853	26.68	1169	167	1087	92																											
93	229	43.7	1398	240	1053	1205	351	858	937	107	1045	559	325	566	325	387	577	1066	258	869	27.06	1186	169	1100	93																											
94	228	44.3	1416	242	1066	1220	355	866	948	108	1056	566	325	574	327	394	589	1084	263	884	27.44	1218	171	1126	95																											
95	227	44.7	1434	245	1077	1235	360	874	960	108	1068	573	325	590	326	400	590	1103	268	900	28.13	1235	173	1139	96																											
96	226	45.2	1452	248	1089	1250	365	882	972	108	1079	580	326	598	326	407	614	1122	273	915	28.52	1252	175	1152	97																											
97	225	45.7	1470	251	1101	1265	370	890	983	109	1090	588	326	606	326	414	627	1141	279	931	28.91	1269	176	1165	98																											
98	224	46.2	1488	254	1113	1280	374	897	995	109	1102	595	326	614	327	420	640	1160	284	947	29.20	1284	177	1178	99																											
99	223	46.6	1506	257	1125	1295	379	905	1006	109	1113	602	327	622	327	427	653	1179	289	963	29.60	1301	179	1191	100																											
100	222	47.1	1524	260	1136	1310	384	913	1018	110	1124	609	327	647	327	434	666	1199	295	979	30.00	1319	181	1204	101																											
101	221	47.7	1542	262	1149	1326	389	920	1029	110	1136	616	328	679	328	441	679	1218	300	996	30.40	1336	183	1217	102																											
102	220	48.1	1560	265	1161	1341	393	928	1041	110	1147	623	328	692	328	447	692	1238	306	1012	30.69	1351	184	1230	103																											
103	219	48.6	1578	267	1173	1356	398	936	1052	111	1158	630	328	706	329	454	706	1258	311	1029	31.10	1369	185	1243	104																											
104	218	49.1	1596	270	1184	1371	403	943	1064	111	1169	638	329	727	329	455	727	1278	317	1046	31.50	1386	187	1256	105																											
105	217	49.6	1613	273	1196	1386	408	951	1075	112	1180	645	329	741	330	461	746	1298	322	1062	31.91	1403	189	1269	106																											
106	216	50.0	1631	276	1208	1401	412	959	1087	112	1192	652	330	746	330	461	751	1318	328	1079	32.21	1419	190	1282	107																											
107	216	50.5	1649	279	1219	1416	417	966	1098	112	1203	659	330	747	330	461	757	1339	334	1097	32.62	1436	192	1295	108																											
108	215	51.0	1667	282	1231	1431	422	974	1110	113	1214	666	330	763	331	465	775	1359	339	1114	33.03	1454	194	1308	109																											
109	214	51.4	1685	285	1243	1446	427	981	1121	113	1225	673	331	775	331	471	790	1380	345	1131	33.33	1469	195	1321	110																											
110	213	52.0	1703	287	1256	1462	431	989	1133	113	1236	681	331	797	331	471	804	1401	351	1149	33.74	1487	196	1334	111																											
111	212	52.5	1721	290	1267	1477	436	996	1144	114	1247	688	331	811	332	471	819	1422	357	1166	34.16	1504	198	1347	112																											
112	211	53.0	1739	293	1279	1492	441	1004	1156	114	1258	695	332	828	332	471	833	1443	363	1184	34.46	1520	199	1360	113																											
113	210	53.4	1757	296	1291	1507	446	1011	1167	114	1269	702	332	848	332	471	848	1465	369	1202	34.88	1537	201	1373	114																											
114	209	53.9	1775	299	1302	1522	451	1019	1179	115	1280	709	332	863	332	471	863	1486	375	1220	35.19	1553	202	1386	115																											
115	208	54.4	1793	302	1314	1537	455	1026	1190	115	1291	716	333	883	333	471	878	1508	381	1238	35.61	1571	204	1399	116																											
116	207	54.9	1811	304	1326	1552	460	1034	1202	116	1302	724	333	891	333	471	885	1526	389	1250	35.92	1586	205	1412	117																											
117	207	55.3	1829	307	1337	1567	465	1041	1213	116	1313	731	333	949	333	471	893	1530	393	1252	36.34	1604	207	1425	118																											
118	206	55.8	1847	310	1349	1583	470	1049	1225	116	1324	738	333	956	333	471	909	1552	394	1254	36.74	1622T	209T	1437T	119																											
119	205	56.4	1865T	312T	1362T	1598T	474T	1056T	1236T	117T	1335T	745T	334T	964T	334T	471	924L	1574L	400L	1293L	36.77	1622T	209T	1437T	119																											

IMPACT NOT INCLUDED

HINGE AT 10 POINT (100L)

KAB 0.041

CAN 0.900

CBA 0.111

CBA 0.111

W = 0.64 K/FT.

W = 0.6

ONE LANE LIVE LOAD (HS20-44)									
IMPACT NOT INCLUDED									
HINGE AT 1/10 POINT (0 100L)									
K <sub>AB</sub> = 0.041	C <sub>AB</sub> = 9,000								
K <sub>BA</sub> = 3,329	C <sub>BA</sub> = 0.111								
POSITIVE MOMENTS (KIP-FEET)									
NEGATIVE MOMENTS (KIP-FEET)									
LOADING									
TRUCK (T)	A	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L	0.3L	0.8L
ALTERNATIVE (A)	A	W = 0.64 kip/ft.							
LANE (L)	A	W = 0.64 kip/ft.							
N	IMPACT FEET	MAXIMUM POSITIVE MOMENTS # OF L	FEM # OF A	FEM # OF B	SBM # OF 0.3L	FEM # OF A	FEM # OF B	MAXIMUM NEGATIVE MOMENTS # OF A	MAXIMUM NEGATIVE MOMENTS # OF B
120	204	56.9	1883T	315T	1373T	1613T	479T	1063T	1248T
121	203	57.4	1901	318	1385	1628	484	1071	1260
122	202	57.8	1919	321	1397	1643	489	1078	1271
123	202	58.3	1937	324	1408	1658	494	1086	1283
124	201	58.8	1955	327	1420	1673	498	1093	1294
125	200	59.2	1973	330	1431	1688	503	1100	1306
126	199	59.7	1991	333	1443	1704	508	1108	1317
127	198	60.2	2009	335	1454	1719	513	1115	1329
128	198	60.7	2027	338	1466	1734	517	1122	1340
129	197	61.1	2044	341	1478	1749	522	1130	1352
130	196	61.7	2063	343	1491	1764	527	1137	1363
131	195	62.2	2081	346	1502	1779	532	1144	1375
132	195	62.7	2098	349	1514	1794	537	1152	1386
133	194	63.2	2116	352	1525	1809	541	1159	1398
134	193	63.6	2134	355	1537	1824	546	1166	1409
135	192	64.1	2152	358	1548	1840	551	1174	1421
136	192	64.6	2170	361	1560	1855	556	1181	1432
137	191	65.1	2188	363	1571	1870	561	1188	1444
138	190	65.5	2206	366	1583	1885	565	1196	1455
139	189	66.0	2224	369	1595	1900	570	1203	1467
140	189	66.5	2242	372	1606	1915	575	1210	1478
141	189	67.0	2260	375	1618	1930	580	1217	1490
142	187	67.6	2278	377	1631	1945	584	1225	1501
143	187	68.1	2296	380	1642	1961	589	1232	1513
144	186	68.5	2314	383	1654	1976	594	1239	1524
145	185	69.0	2332	385	1665	1991	599	1246	1536
146	185	69.5	2350	388	1677	2006	604	1254	1548
147	184	70.0	2368	391	1688	2021	608	1261	1559
148	183	70.4	2386	394	1700	2036	613	1268	1571
149	182	70.9	2404	397T	1711T	2051T	618T	1275T	1582T

## ONE LANE LIVE LOAD (HS-20-44)

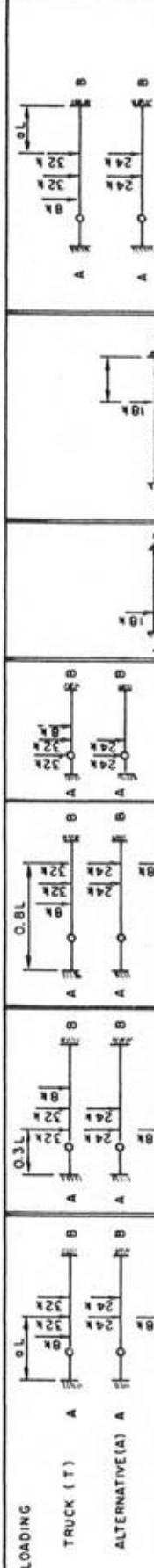
(IMPACT NOT INCLUDED)

HINGE AT 1/10 POINT (0.100 L)

KAB = 0.041 CAB = 9,000

KBA = 3,329 CBA = 0.111

## POSITIVE MOMENTS (KIP-FEET)



## IMPACT FACTOR

## MAXIMUM POSITIVE MOMENTS

## LOADING

## TRUCK (T)

## ALTERNATIVE (A)

## LANE (L)

## W = 0.64 K/Ft.

## W = 0.64 K/Ft.

## 0.3L

## 0.6L

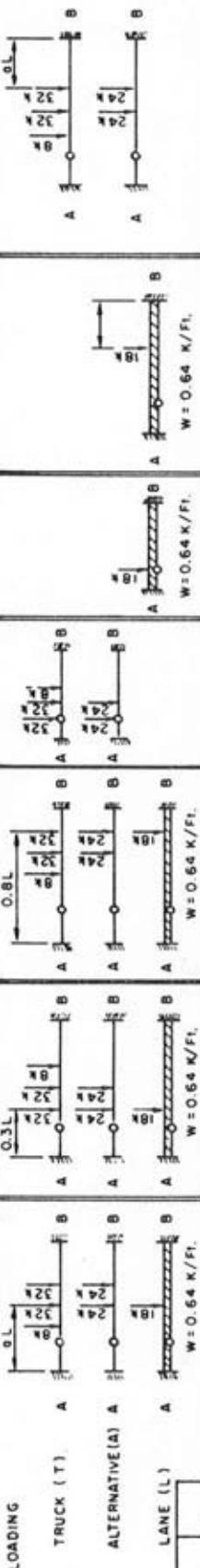
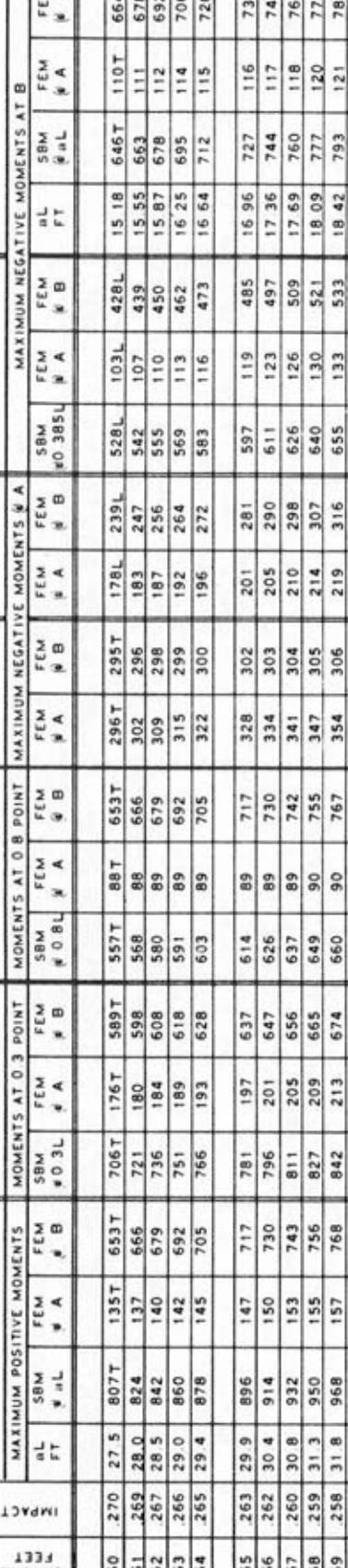
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**ONE LANE LIVE LOAD (HS20-44)**  
(IMPACT NOT INCLUDED)  
 HINGE AT 1/10 POINT (0' 100'L)  
 $K_{AB} = 0.041$     $C_{AB} = 9,000$   
 $K_{BA} = 3.329$     $C_{BA} = 0.111$ 
**POSITIVE MOMENTS (KIP-FEET)**

LOADING	NEGATIVE MOMENTS (KIP-FEET)												SPAN IN										
	MAXIMUM POSITIVE MOMENTS			MOMENTS AT 0.3 POINT			MOMENTS AT 0.8 POINT			MAXIMUM NEGATIVE MOMENTS @ A				MAXIMUM NEGATIVE MOMENTS AT B									
IMPAK T	TRUCK (T)	ALTERNATIVE (A)	LANE (L)	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	FEM @ 0.3L	FEM @ 0.8L	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B				
180	164	87.8	3400L	930L	2622L	2520L	767T	1497T	1939T	142T	1982T	1183T	346T	1126L	2113L	3209L	877L	2671L	59.76	2651T	307T	2216T	180
181	163	88.3	3433	939	2649	2535	772	1504	1951	143	1993	1190	346	1136	2136	3241	887	2698	60.09	2667	308	2228	181
182	163	88.8	3467	949	2675	2550	777	1511	1962	143	2003	1197	346	1147	2160	3272	896	2725	60.42	2683	309	2241	182
183	162	89.3	3501	959	2702	2565T	781T	1518T	1974	144	2013	1204	346	1158	2184	3304	905	2751	60.94	2703	312	2254	183
184	162	89.8	3534	969	2729	2971L	1061L	2521L	1985	144	2024	1212	346	1169	2207	3336	915	2778	61.27	2719	313	2266	184
185	161	90.3	3568	978	2755	2999	1071	2547	1997	145	2034	1219	346	1180	2232	3368	924	2806	61.60	2735	314	2279	185
186	161	90.8	3603	988	2782	3028	1082	2573	2008	145	2045	1226	346	1191	2256	3400	934	2833	61.94	2751	316	2292	186
187	160	91.3	3637	998	2810	3057	1092	2599	2020	146	2055	1233	347	1202	2280	3433	944	2860	62.46	2771	318	2304	187
188	160	91.7	3671	1008	2837	3086	1103	2625	2031	146	2065	1240	347	1213	2304	3465	953	2888	62.79	2787	320	2317	188
189	159	92.2	3705	1018	2864	3115	1113	2652	2043	146	2076	1246	347	1224	2329	3498	963	2916	63.13	2803	321	2330	189
190	159	92.7	3741	1028	2892	3144	1124	2678	2054	147	2086	1255	347	1235	2354	3531	973	2943	63.46	2819	322	2342	190
191	158	93.2	3776	1039	3174	1134	2704	2066	147	2096	1262	347	1246	2379	3554	983	2971	63.98	2838	325	2355	191	
192	158	93.7	3811	1049	3203	1145	2731	2077	148	2107	1269	347	1258	2403	3597	993	2999	64.32	2855	326	2368	192	
193	157	94.2	3846	1059	2975	3233	1156	2758	2089	148	2117	1276	347	1269	2429	3610	1003	3027	64.65	2871	327	2380	193
194	157	94.5	3882	1069	3003	3262	1167	2785	2100	149	2127	1284	348	1280	2454	3654	1013	3056	64.99	2887	329	2393	194
195	156	95.2	3917	1080	3031	3292	1177	2812	2112	149	2138	1291	348	1292	2479	3637	1023	3084	65.32	2903	330	2405	195
196	156	95.6	3953	1090	3060	3322	1188	2839	2124	150	2148	1298	348	1303	2505	3731	1033	3113	65.86	2923	333	2418	196
197	155	96.1	3989	1100	3088	3353	1199	2866	2135	150	2159	1305	348	1315	2530	3765	1043	3142	66.19	2939	334	2431	197
198	155	96.6	4025	1111	3117	3383	1210	2894	2147	150	2169	1312	348	1326	2556	3799	1053	3170	66.53	2955	335	2443	198
199	154	97.1	4061	1122	3145	3413	1221	2921	2158	151	2179	1319	348	1338	2582	3833	1063	3199	66.86	2971	337	2456	199
200	154	97.6	4098	1132	3174	3444	1232	2949	2170	151	2190	1327	348	1350	2608	3868	1074	3228	67.40	2991	340	2469	200
201	153	98.1	4134	1143	3203	3475	1243	2977	2181	152	2200	1334	348	1361	2634	3902	1084	3258	67.74	3007	341	2481	201
202	153	98.6	4171	1153	3232	3506	1255	3005	2193	152	2210	1341	349	1373	2660	3937	1094	3287	68.07	3023	342	2494	202
203	152	99.1	4208	1164	3261	3537	1266	3033	2204	153	2220	1348	349	1385	2687	3912	1105	3316	68.41	3039	343	2507	203
204	152	99.6	4245	1175	3291	3568	1277	3061	2216	153	2231	1355	349	1397	2713	4007	1115	3346	68.75	3055	345	2519	204
205	152	100.0	4282	1186	3320	3599	1289	3089	2227	154	2241	1363	349	1409	2740	4052	1126	3376	69.29	3076	348	2532	205
206	151	100.5	4319	1197	3350	3630	1300	3118	2239	154	2251	1370	349	1421	2766	4077	1137	3406	69.63	3092	349	2544	206
207	151	101.0	4357	1206	3380	3662	1311	3147	2250	155	2262	1377	349	1433	2793	4112	1147	3436	69.97	3108	350	2557	207
208	150	101.5	4395	1219	3409	3694	1323	3175	2262	155	2272	1384	349	1445	2820	4148	1158	3466	70.30	3124	352	2570	208
209	150	102.0	4432L	1230L	3439L	3725L	1334L	3204L	2273T	155T	2282T	1391T	349T	1457L	2848L	4184L	1169L	3496L	70.64	3140T	353T	2582T	209

LOADING	POSITIVE MOMENTS (KIP- FEET)						NEGATIVE MOMENTS (KIP- FEET)						SPANNING FEEET IN SPAN										
	TRUCK (T)	ALTERNATIVE (A)	LANE (L)	MAXIMUM POSITIVE MOMENTS	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	MAXIMUM NEGATIVE MOMENTS AT A	MOMENTS AT 0.3 POINT	MOMENTS AT 0.8 POINT	MAXIMUM NEGATIVE MOMENTS AT B	FEM # A	FEM # B	FEM # A	FEM # B									
IMPACT FACTOR	aL / FT	SBM # aL	FEM # A	SBM # 0.3L	FEM # A	SBM # 0.8L	FEM # A	SBM # 0.3L	FEM # A	SBM # 0.8L	FEM # A	FEM # B	FEM # A	FEM # B									
30	.300	13.7	313A	45A	236A	274A	73A	178A	211A	16A	224A	116A	48A	69L	196L	32L	154L	9.7	283A	31A	246A	30	
31	.300	14.2	325	47	244	284	76	183	219	16	231	121	48	72	64	205	33	161	6.51	235T	61.1	256	31
32	.300	14.6	337	49	252	294	79	188	227	16	238	125A	48A	75	68	214	35	169	6.85	249	62	270	32
33	.300	15.1	349	50	260	304	82	193	234	17	246	130T	191T	78	72	223	37	176	7.16	262	62	283	33
34	.300	15.6	361	52	268	314	85	198	242	17	253	135	199	81	77	232	39	184	7.51	276	63	297	34
35	.300	16.1	373	54	275	324A	88A	203A	250	17	260	141	207	84	81	242	41	192	7.84	289	64	310	35
36	.300	16.6	385	55	283	349T	85T	310T	257	17	267	147	215	87	86	252	43	199	8.21	303	65	324	36
37	.300	17.1	397	57	291	363	89	321	265	18	274	153	221	91	91	261	45	207	8.55	318	69	337	37
38	.300	17.5	409	59	299	376	92	331	273	18	281	159	227	94	96	271	47	216	8.85	332	76	350	38
39	.300	18.0	421	60	307	390	96	341	280	18	288	165	233	97	101	281	49	224	9.20	348	82	363	39
40	.300	18.5	433	62	314	403	99	350	288	19	295	171	238	101	106	292	51	232	9.24	333	89	374	40
41	.300	19.0	445	64	322	418	103	365	296	19	302	177	243	104	112	302	53	241	8.57	348	90	389	41
42	.299	19.4	457	66	330	433	107	379	303	19	308	183	247	108	117	313	55	249	8.90	363	91	404	42
43	.298	19.9	469A	67A	338A	449	110	393	311	19	315	189	252	111	123	323	58	258	9.24	378	92	419	43
44	.296	20.1	521T	95T	434T	464	114	407	319	20	322	195	256	115	129	334	60	267	9.55	392	93	434	44
45	.294	20.5	539	98	449	479	118	420	326	20	329	201	259	119	135	345	62	276	9.90	408	94	449	45
46	.292	21.0	556	100	463	494	121	433	334	20	336	208	263	122	141	356	65	285	10.26	824	95	454	46
47	.291	21.4	574	103	477	509	125	446	342	20	343	214	266	126	147	368	67	295	10.57	839	95	479	47
48	.289	21.9	592	105	492	524	129	458	349	21	350	220	269	130	153	379	70	304	10.94	455	97	493	48
49	.287	22.4	610	107	506	539	133	470	357	21	357	226	272	134	160	391	72	314	11.27	470	98	508	49
50	.286	22.8	628	110	519	554	137	482	365	21	364	233	275	137	166	403	75	323	11.60	486	98	522	50
51	.284	23.3	646	112	533	570	141	493	372	22	370	239	277	141	173	414	78	333	11.98	502	100	537	51
52	.282	23.8	664	115	547	585	144	504	380	22	377	245	280	145	180	426	80	343	12.32	518	101	551	52
53	.281	24.2	681	118	560	600	148	515	388A	22A	384A	252	282	149	187	439	83	353	12.67	533	102	565	53
54	.279	24.7	699	120	574	615	152	526	488T	88T	574T	258	284	153	194	451	86	364	13.01	549	103	580	54
55	.278	25.2	717	122	587	630	156	537	499	88	587	264	286	157	201	464	89	374	13.36	565	104	594	55
56	.276	25.6	735	125	600	645	160	548	511	88	600	271	288	161	208	476	92	385	13.72	581	105	608	56
57	.275	26.1	753	127	614	660	164	558	522	88	614	277	290	166	216	489	94	395	14.08	597	106	622	57
58	.273	26.6	771	130	627	675	168	568	534	88	627	283	291	170	224	502	97	406	14.44	614	108	636	58
59	.272	27.1	789T	132T	640T	690T	172T	597	545T	88T	640T	293T	290T	174L	231L	515L	100L	417L	14.81	630T	109T	650T	59

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ONE LANE LIVE LOAD (HS20-44) <small>(IMPACT NOT INCLUDED)</small>																							
HINGE AT 1/11 POINT (0.091L) K <sub>AB</sub> = 0.033 C <sub>AB</sub> = 10,000 K <sub>BAA</sub> = 3,297 C <sub>BAA</sub> = 0,100																							
POSITIVE MOMENTS (KIP-FEET)																							
NEGATIVE MOMENTS (KIP-FEET)																							
																							
																							
LOADING	MAXIMUM POSITIVE MOMENTS																						
TRUCK (T)	BL FT	SBM #/HL	FEM #/A	FEM #/B	SBM # 0.3L	FEM # A	FEM # B	SBM # 0.8L	FEM # A	FEM # B	SBM # 0.385L	FEM # A	FEM # B										
ALTERNATIVE (A)	BL FT	SBM #/HL	FEM #/A	FEM #/B	SBM # 0.3L	FEM # A	FEM # B	SBM # 0.8L	FEM # A	FEM # B	SBM # 0.385L	FEM # A	FEM # B										
LANE (L)	BL FT	SBM #/HL	FEM #/A	FEM #/B	SBM # 0.3L	FEM # A	FEM # B	SBM # 0.8L	FEM # A	FEM # B	SBM # 0.385L	FEM # A	FEM # B										
IMPACT FACTOR	BL FT	SBM #/HL	FEM #/A	FEM #/B	SBM # 0.3L	FEM # A	FEM # B	SBM # 0.8L	FEM # A	FEM # B	SBM # 0.385L	FEM # A	FEM # B										
60	270	27.5	807T	135T	653T	706T	176T	557T	88T	653T	295T	178L	239L	528L	103L	428L	1518	646T	110T	664T	60		
61	269	28.0	824	137	666	721	180	598	568	88	666	302	296	183	247	542	107	439	1555	663	111	678	61
62	267	28.5	842	140	679	736	184	608	580	89	679	309	298	187	256	555	110	450	1587	678	112	692	62
63	266	29.0	860	142	692	751	189	618	591	89	692	315	299	192	264	569	113	462	1625	695	114	706	63
64	265	29.4	878	145	705	766	193	628	603	89	705	322	300	196	272	583	116	473	1664	712	115	720	64
65	263	29.9	896	147	717	781	197	637	614	89	717	328	302	201	281	597	119	485	1696	727	116	734	65
66	262	30.4	914	150	730	796	201	647	626	89	730	334	303	205	290	611	123	497	1736	744	117	748	66
67	260	30.8	932	153	743	811	205	656	637	89	742	341	304	210	298	626	126	509	1769	760	118	762	67
68	259	31.3	950	155	756	827	209	665	649	90	755	347	305	214	307	640	130	521	1809	777	120	775	68
69	258	31.8	968	157	768	842	213	674	660	90	767	354	306	219	316	655	133	533	1842	793	121	789	69
70	256	32.3	985	160	781	857	217	683	672	90	780	360	307	224	326	670	136	545	1883	810	122	803	70
71	255	32.7	1003	163	793	872	221	692	684	90	792	367	308	229	335	685	140	558	1917	826	124	816	71
72	254	33.2	1021	165	806	887	226	701	695	90	804	373	309	234	345	700	144	571	1951	842	125	830	72
73	253	33.7	1039	167	819	902	230	710	707	91	817	380	310	238	354	715	147	584	1993	860	126	844	73
74	251	34.2	1057	170	831	917	234	719	718	91	829	386	311	243	364	730	151	597	2028	876	127	857	74
75	250	34.6	1075	173	843	932	238	728	730	91	841	393	312	248	374	746	155	610	2062	892	129	871	75
76	249	35.1	1093	175	856	948	242	737	741	91	853	399	312	253	384	762	158	623	2105	910	130	884	76
77	246	35.6	1111	178	868	963	246	745	753	92	865	405	313	258	394	777	162	636	2141	926	132	898	77
78	246	36.1	1129	180	881	978	250	754	764	92	877	412	314	264	404	793	166	650	2176	942	133	911	78
79	245	36.6	1147	183	893	993	255	763	776	92	889	418	315	269	415	810	170	663	2212	959	134	925	79
80	244	37.0	1165	185	905	1008	259	771	787	92	901	425	315	274	425	826	174	677	2248	975	135	938	80
81	243	37.5	1182	188	917	1023	263	780	799	93	913	431	316	279	436	842	178	691	2284	991	136	952	81
82	241	38.0	1200	190	929	1038	267	788	810	93	925	438	317	285	447	859	182	705	2321	1008	138	965	82
83	240	38.4	1218	193	941	1053	271	797	822	93	937	444	317	290	458	876	186	719	2365	1026	140	978	83
84	239	39.0	1236	195	954	1058	276	805	833	93	948	451	318	295	469	893	190	733	2402	1043	141	992	84
85	238	39.4	1254	198	967	1084	280	813	845	94	960	457	319	301	480	910	194	747	2439	1059	142	1005	85
86	237	39.9	1272	200	979	1099	284	822	856	94	972	464	319	306	492	927	199	762	2477	1076	144	1018	86
87	236	40.4	1290	203	991	1114	288	830	868	94	983	470	320	312	503	944	203	776	2514	1093	145	1032	87
88	235	40.8	1308	206	1003	1129	292	838	879	94	995	477	320	317	515	962	207	791	2552	1110	146	1045	88
89	234	41.3	1326T	208T	1015T	1144T	297T	847T	901T	95T	1007T	483T	321T	321T	523L	979L	211L	806L	2581	1125T	147T	1058T	89

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LOADING	POSITIVE MOMENTS (KIP·FEET)												NEGATIVE MOMENTS (KIP·FEET)												
	TRUCK (T)			ALTERNATIVE (A)			LANE (L)			MAXIMUM POSITIVE MOMENTS			MOMENTS AT 0.3 POINT			MOMENTS AT 0.3 POINT			MAXIMUM NEGATIVE MOMENTS @ A			MAXIMUM NEGATIVE MOMENTS @ B			
SPAN LENGTH	ft	in.	ft	in.	ft	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.
90	233	41.8	1344T	211T	102T	1159T	301T	855T	902T	95T	1018T	490T	321T	328L	538L	997L	216L	821L	26.19	1141T	149T	1072T	90	91	
91	231	42.3	1362	213	1039	1174	305	863	914	95	1030	496	322	334	550	1015	220	836	26.57	1158	150	1085	91	92	
92	230	42.8	1380	216	1051	1189	309	871	925	96	1041	503	322	340	562	1033	225	852	26.96	1175	151	1098	92	93	
93	229	43.2	1398	218	1063	1205	314	879	937	96	1053	509	323	346	575	1052	229	867	27.34	1192	153	1111	93	94	
94	228	43.7	1415	221	1075	1220	318	887	948	96	1064	516	323	352	587	1070	234	883	27.73	1209	154	1125	94	95	
95	227	44.2	1433	224	1087	1235	322	895	960	96	1076	522	324	357	600	1089	239	898	28.12	1226	156	1138	95	96	
96	226	44.6	1451	226	1099	1250	326	903	972	97	1087	529	324	363	612	1107	243	914	28.51	1244	157	1151	96	97	
97	225	45.1	1469	229	1111	1265	330	912	983	97	1098	535	324	369	625	1126	248	930	28.81	1259	158	1164	97	98	
98	224	45.7	1487	231	1124	1280	335	920	995	97	1110	542	325	375	638	1145	253	946	29.20	1276	160	1177	98	99	
99	223	46.1	1505	233	1136	1295	339	928	1006	98	1121	548	325	381	651	1165	257	962	29.60	1293	161	1191	99	100	
100	222	46.6	1523	236	1148	1310	343	935	1018	98	1132	555	326	388	664	1184	262	979	30.00	1310	163	1204	100	101	
101	221	47.1	1541	239	1160	1326	347	943	1029	98	1144	561	326	394	678	1203	267	995	30.40	1328	164	1217	101	102	
102	220	47.5	1559	241	1171	1341	352	951	1041	99	1155	568	326	400	691	1223	272	1012	30.70	1343	165	1230	102	103	
103	219	48.0	1577	244	1183	1356	356	959	1052	99	1166	574	327	406	705	1243	277	1029	31.11	1360	167	1243	103	104	
104	218	48.5	1595	247	1195	1371	360	967	1064	99	1177	581	327	412	719	1263	282	1045	31.51	1378	168	1256	104	105	
105	217	48.9	1613	249	1207	1386	364	975	1075	100	1189	587	327	419	733	1283	287	1062	31.81	1393	169	1269	105	106	
106	216	49.5	1631	251	1220	1401	369	983	1087	100	1200	594	328	425	747	1303	292	1080	32.22	1411	171	1283	106	107	
107	216	50.0	1649	254	1232	1416	373	991	1098	100	1211	600	328	431	761	1323	297	1097	32.63	1428	173	1296	107	108	
108	215	50.4	1667	256	1243	1431	377	999	1110	101	1222	607	328	438	789	1344	303	1114	33.05	1446	174	1309	108	109	
109	214	50.9	1685	259	1255	1446	381	1006	1121	101	1233	613	329	444	789	1365	308	1132	33.35	1461	175	1322	109	110	
110	213	51.4	1702	262	1267	1462	386	1014	1133	101	1244	620	329	451	804	1386	313	1149	33.77	1479	177	1335	110	111	
111	212	51.8	1720	264	1279	1477	390	1022	1144	101	1255	625	329	458	819	1407	319	1167	34.08	1494	178	1348	111	112	
112	211	52.3	1738	267	1290	1492	394	1030	1156	102	1266	633	330	464	833	1428	324	1185	34.50	1512	179	1361	112	113	
113	210	52.8	1756	270	1302	1507	399	1038	1167	102	1278	639	330	471	846	1449	329	1203	34.92	1530	181	1374	113	114	
114	209	53.4	1774	272	1315	1522	403	1045	1179	102	1289	646	330	478	863	1471	335	1222	35.23	1545	182	1387	114	115	
115	208	53.8	1792	274	1327	1537	407	1053	1190	103	1300	652	330	484	879	1492	340	1240	35.65	1563	184	1400	115	116	
116	207	54.3	1810	277	1339	1552	411	1061	1202	103	1311	659	331	491	894	1514	346	1258	36.08	1581	186	1413	116	117	
117	207	54.8	1828	279	1350	1567	416	1069	1213	104	1322	665	331	498	909	1536	352	1277	36.39	1596	187	1426	117	118	
118	206	55.2	1846	282	1362	1583	420	1076	1225	104	1333	672	331	505	925	1558	357	1296	36.82	1614	188	1439	118	119	
119	205	55.7	1864T	285T	1374T	1598T	424T	1084T	1236T	104T	1343T	678T	332T	512L	941L	1580L	363L	1315L	37.13	1630T	189T	1452T	119	120	



ONE LANE LIVE LOAD (H220-44) IMPACT NOT INCLUDED HINGE AT 1/11 POINT (0.091L) K <sub>AB</sub> = 0.033      C <sub>AB</sub> = 10.00 K <sub>BA</sub> = 3.297      C <sub>BA</sub> = 0.100													
POSITIVE MOMENTS (KIP-FEET)													
LOADING	IMPACT FACTOR	MOMENTS AT 0.3 POINT						NEGATIVE MOMENTS (KIP-FEET)					
		MAXIMUM	POSITIVE	MOMENTS	FEM	SBM	FEM	MAXIMUM	NEGATIVE	MOMENTS	W <sub>A</sub>	W <sub>B</sub>	
TRUCK (T)	0.3L	ft	#A	#B	#A	#B	#A	ft	#A	#B	W = 0.64 k/ft.	W = 0.64 k/ft.	
ALTERNATIVE (A)	0.3L	ft	#A	#B	#A	#B	#A	ft	#A	#B	W = 0.64 k/ft.	W = 0.64 k/ft.	
LANE (L)	0.3L	ft	#A	#B	#A	#B	#A	ft	#A	#B	W = 0.64 k/ft.	W = 0.64 k/ft.	
150	1.79	73.0	2510	377	1797	2142	578	1356	1651	117	1730	913	
156	1.78	73.5	2528	380	1809	2157	583	1364	1663	118	1741	920	
157	1.77	73.9	2546	382	1820	2172	587	1371	1674	118	1752	926	
158	1.77	74.4	2564	385	1832	2187	591	1379	1686	118	1762	933	
159	1.76	74.9	2582	388	1844	2202	595	1386	1697	119	1773	940	
160	1.75	75.4	2600	390	1855	2218	600	1393	1709	119	1783	946	
161	1.75	75.8	2618	393	1867	2233	604	1401	1720	120	1794	953	
162	1.74	76.3	2636	396	1878	2248	608	1408	1732	120	1804	959	
163	1.74	76.8	2654	398	1890	2263	613	1416	1743	120	1815	966	
164	1.73	77.2	2672	401	1901	2278	617	1423	1755	121	1825	972	
165	1.72	77.9	2690	402	1915	2293	621	1431	1766	121	1836	979	
166	1.72	78.4	2708	405	1927	2308	626	1438	1778	122	1846	985	
167	1.71	78.8	2726	407	1938	2323	630	1445	1789	122	1857	992	
168	1.71	79.3	2744	410	1950	2339	634	1453	1801	122	1867	998	
169	1.70	79.8	2762	413	1961	2354	638	1460	1812	123	1878	1005	
170	1.69	80.2	2780	415	1973	2369	643	1468	1824	123	1888	1011	
171	1.69	80.7	2798	418	1984	2384	647	1475	1836	124	1899	1018	
172	1.68	81.2	2816T	421T	1996T	2399	651	1482	1847	124	1909	1024	
173	1.68	83.6	3169L	783L	2414	656	1490	1859	124	1920	1031	341	
174	1.67	84.0	3201	792	2509	2429	660	1497	1870	125	1930	1037	
175	1.67	84.5	3234	800	2535	2444	664	1505	1882	125	1941	1044	
176	1.66	85.0	3266	809	2561	2460	669	1512	1893	125	1951	1051	
177	1.66	85.5	3299	817	2588	2475	673	1519	1905	126	1962	1057	
178	1.65	86.0	3332	826	2614	2490	677	1527	1916	126	1972	1064	
179	1.64	86.5	3365L	835L	2641L	2505T	681T	1534T	1928T	127T	1983T	1070T	

LOADING	POSITIVE MOMENTS (KIP·FEET)										NEGATIVE MOMENTS (KIP·FEET)															
	TRUCK (T)	aL FT	SBM @ aL	FEM @ A	FEM @ B	SBM @ 0.3L	FEM @ A	FEM @ B	SBM @ 0.8L	FEM @ A	FEM @ B	MAXIMUM AT 0.3 POINT	MOMENTS AT 0.8 POINT	MAXIMUM AT 0.8 POINT	MOMENTS AT 0.3 POINT	MAXIMUM NEGATIVE MOMENTS @ A	FEM @ A	FEM @ B	SBM @ 0.385L	FEM @ A	FEM @ B	MAXIMUM NEGATIVE MOMENTS AT B	FEM @ B	SBM @ aL	FEM @ A	FEM @ B
IMPACT FACTOR																										
SPAN FEET																										
180	164	86.9	3398L	843L	2667L	154T	1939T	127T	1933T	1077T	342T	1021L	2152L	3222L	796L	2717L	60.30	2662T	278T	2238	180					
181	163	87.4	3431	852	2694	2886L	931L	2498L	1951	127	2004	1083	362	1031	2176	3254	804	2744	60.82	2682	280	2250	181			
182	163	87.9	3465	861	2721	2914	940	2524	1962	128	2014	1090	342	1041	2200	3285	813	2771	61.15	2698	281	2263	182			
183	162	88.4	3499	870	2748	2942	950	2550	1974	128	2024	1096	342	1051	2224	3317	821	2798	61.49	2714	282	2275	183			
184	162	88.9	3532	878	2776	2971	959	2576	1985	129	2035	1103	342	1061	2248	3349	830	2826	61.82	2730	283	2289	184			
185	161	89.4	3556	887	2803	2999	968	2602	1997	129	2045	1109	342	1070	2273	3362	838	2854	62.34	2750	286	2302	185			
186	161	89.8	3601	896	2830	3028	978	2628	2008	129	2056	1116	343	1080	2297	3414	847	2881	62.68	2766	287	2314	186			
187	160	90.3	3635	905	2856	3057	987	2655	2020	130	2066	1122	343	1090	2322	3447	856	2909	63.02	2782	288	2327	187			
188	160	90.8	3669	914	2886	3086	997	2682	2031	130	2077	1129	343	1100	2347	3449	865	2927	63.36	2798	289	2340	188			
189	159	91.3	3704	924	2914	3115	1006	2708	2043	131	2087	1135	343	1111	2372	3512	874	2955	63.88	2818	292	2353	189			
190	159	91.8	3739	933	2942	3144	1016	2735	2054	131	2097	1142	343	1121	2397	3545	882	2994	64.22	2834	293	2365	190			
191	158	92.3	3774	942	2970	3174	1026	2762	2066	131	2108	1149	343	1131	2423	3578	891	3022	64.56	2850	294	2378	191			
192	158	92.7	3809	951	2998	3203	1035	2790	2077	132	2118	1155	343	1141	2448	3611	900	3051	64.90	2866	295	2391	192			
193	157	93.2	3844	960	3027	3233	1045	2817	2089	132	2129	1162	343	1151	2474	3645	909	3079	65.43	2886	298	2404	193			
194	157	93.7	3879	970	3055	3262	1055	2844	2100	133	2139	1168	343	1162	2499	3678	918	3108	65.77	2902	299	2417	194			
195	156	94.2	3915	979	3084	3292	1065	2872	2112	133	2149	1175	344	1172	2525	3712	928	3137	66.10	2918	300	2429	195			
196	156	94.7	3951	989	3113	3322	1074	2900	2124	133	2160	1181	344	1183	2551	3746	937	3166	66.44	2934	301	2442	196			
197	155	95.2	3987	998	3142	3353	1084	2928	2135	134	2170	1188	344	1193	2577	3760	946	3196	66.98	2954	304	2455	197			
198	155	95.6	4023	1008	3171	3383	1094	2956	2147	134	2180	1194	344	1203	2603	3814	955	3225	67.32	2971	305	2468	198			
199	154	96.1	4059	1017	3200	3413	1104	2984	2158	135	2191	1201	344	1214	2630	3849	964	3254	67.66	2987	306	2480	199			
200	154	96.6	4095	1027	3229	3444	1114	3012	2170	135	2201	1207	344	1225	2656	3883	974	3284	68.00	3003	307	2493	200			
201	153	97.1	4132	1036	3259	3475	1124	3040	2181	135	2212	1214	344	1235	2683	3918	983	3314	68.34	3019	309	2506	201			
202	153	97.6	4168	1046	3288	3506	1135	3069	2193	136	2222	1220	344	1246	2710	3953	993	3344	68.88	3039	311	2519	202			
203	152	98.0	4205	1056	3318	3537	1145	3098	2204	136	2232	1227	344	1257	2736	3987	1002	3374	69.22	3055	312	2531	203			
204	152	98.5	4242	1066	3348	3568	1155	3126	2216	137	2243	1234	345	1267	2763	4023	1012	3404	69.56	3072	314	2544	204			
205	152	99.0	4280	1075	3378	3599	1165	3155	2227	137	2253	1240	345	1278	2791	4058	1021	3434	69.90	3088	315	2557	205			
206	151	99.5	4317	1085	3408	3630	1176	3184	2239	137	2263	1247	345	1289	2818	4093	1031	3465	70.25	3104	316	2570	206			
207	151	100.0	4354	1095	3438	3662	1186	3214	2250	138	2274	1253	345	1300	2845	4129	1040	3495	70.79	3124	319	2582	207			
208	150	100.5	4392	1105	3469	3694	1196	3243	2262	138	2284	1260	345	1311	2873	4165	1050	3526	71.14	3140	320	2595	208			
209	150	100.9	4430L	1115L	3499L	3725L	1207L	3272L	2273T	139T	2294T	1266T	345T	1322L	2900L	4200L	1060L	3557L	71.48	3157T	321T	2608T	209			

LOADING	POSITIVE MOMENTS (KIP·FEET)						NEGATIVE MOMENTS (KIP·FEET)						MAXIMUM NEGATIVE MOMENTS AT B FEM @ A FEM @ B FEM @ CBA	MAXIMUM NEGATIVE MOMENTS AT A FEM @ A FEM @ B FEM @ CBA	MAXIMUM NEGATIVE MOMENTS AT B FEM @ B FEM @ A FEM @ CBA			
	TRUCK (T)	A	B	C	D	E	F	G	H	I	J	K	L					
<b>ONE LANE LIVE LOAD (HS20-44)</b>															IMPACT NOT INCLUDED			
ALTERNATIVE(A)	A	B	C	D	E	F	G	H	I	J	K	L	M	HINGE AT 1/12 POINT (0.03 L)	POINT (0.03 L)			
W (L)	A	B	C	D	E	F	G	H	I	J	K	L	M	KAB = 0.027	CAb = 0.090			
IMPACT															KBA = 0.091			
SPANNING LENGTH															W = 0.64 K/Ft.			
MAXIMUM POSITIVE MOMENTS															W = 0.64 K/Ft.			
MOMENTS AT 0.3 POINT															W = 0.64 K/Ft.			
MOMENTS AT 0.8 POINT															W = 0.64 K/Ft.			
aL	SBM @ aL	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	FEM @ A	FEM @ B	
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	
30	300	13.5	313A	41A	238A	274A	66A	182A	211A	14A	225A	107A	48A	63A	611	197L	291	156A
31	300	14.0	325	43	246	284	69	187	219	15	233	111	48	66	65	206	30	163
32	300	14.5	337	45	254	294	72	192	227	15	240	115A	48A	68	69	215	32	171
33	300	15.0	349	46	262	304	74	197	234	15	247	119T	193T	71	73	224	34	178
34	300	15.4	361	48	270	314	77	202	242	15	254	125	201	74	78	233	35	186
35	300	15.9	373	49	278	324A	79A	207A	250	16	261	130	209	77	82	243	37	194
36	300	16.4	385	51	285	349T	77T	315T	257	16	268	135	216	80	87	252	39	202
37	300	16.9	397	52	293	363	80	326	265	16	275	141	223	83	92	262	41	210
38	300	17.4	409	54	301	376	83	336	273	16	282	146	229	86	97	272	43	218
39	300	17.8	421	56	309	390	87	346	280	16	289	152	234	89	102	282	45	226
40	300	18.3	433	57	317	403	90	356	288	17	296	157	239	92	108	293	47	235
41	300	18.8	445	59	325	418	93	371	295	17	303	163	244	95	113	303	49	244
42	299	19.2	456A	60A	332A	433	96	385	303	17	310	168	249	99	119	314	51	252
43	298	19.4	503T	85T	424T	449	100	400	311	17	317	174	253	102	125	324	53	261
44	296	19.8	521	88	439	464	103	413	319	18	324	180	257	105	131	335	55	270
45	294	20.3	539	90	454	479	106	427	326	18	331	185	260	108	137	346	57	279
46	292	20.8	556	92	468	494	110	440	334	18	338	191	264	112	143	357	59	289
47	291	21.2	574	94	483	509	113	453	342	18	344	197	267	115	149	369	62	298
48	289	21.7	592	96	497	524	117	465	349	19	351	202	270	119	155	380	64	308
49	287	22.1	610	99	511	539	120	477	357	19	358	208	272	122	162	392	66	318
50	286	22.6	628	101	525	554	123	489	365	19	365	214	275	126	169	404	69	327
51	284	23.1	646	103	539	570	127	501	372	19	372	220	278	129	175	416	71	337
52	282	23.6	664	105	552	585	131	512	380	20	379	225	280	133	182	428	74	348
53	281	24.0	681	108	566	600	134	524	388A	20A	386A	231	282	137	189	440	76	348
54	279	24.5	699	110	579	615	138	535	488T	79T	579T	237	284	140	197	452	79	368
55	278	24.9	717	112	593	630	141	546	499	79	592	243	286	144	204	465	81	379
56	276	25.4	735	115	606	645	145	557	511	79	606	249	288	148	212	478	84	389
57	275	25.9	753	117	620	660	148	567	522	79	619	254	290	152	219	491	86	400
58	273	26.3	771	119	633	675	152	578	534	79	632	260	292	155	227	504	89	411
59	272	26.8	788T	122T	646T	690T	156T	588T	545T	80T	646T	266T	293T	159L	235L	517L	92L	422L

ONE LANE LIVE LOAD (HS 20-44) (IMPACT NOT INCLUDED)										NEGATIVE MOMENTS (KIP-FEET)													
POSITIVE MOMENTS (KIP-FEET)										MAXIMUM NEGATIVE MOMENTS AT B													
LOADING		TRUCK (T)		ALTERNATIVE (A)		LANE (L)		MAXIMUM POSITIVE MOMENTS		MOMENTS AT 0.3 POINT		MOMENTS AT 0.8 POINT		MAXIMUM NEGATIVE MOMENTS AT A		FEM # AL		FEM # AL		FEM # AL			
IMPACT FACT. SPAN IN.	AL ft	SBM # AL	FEM # AL	FEM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL	SBM # AL	FEM # AL		
60	270	272	806T	124T	659T	706T	159T	557T	80T	659T	272T	295T	163L	243L	530L	95L	433L	1536	651T	101T	671T	60	
61	269	27.8	824	126	672	721	163	609	80	672	278	296	167	251	543	97	445	1568	666	101	685	61	
62	267	28.2	842	128	685	736	167	619	80	685	284	298	171	259	557	100	456	1606	683	103	699	62	
63	266	28.7	860	131	698	751	170	629	80	697	290	299	175	268	571	103	468	1644	700	104	713	63	
64	265	29.1	878	133	711	766	174	638	80	710	296	300	179	276	585	106	479	1683	716	105	727	64	
65	263	29.6	896	135	724	781	178	648	80	723	301	301	184	285	599	103	491	1716	732	106	741	65	
66	262	30.1	814	137	737	796	181	658	81	736	307	303	188	294	613	112	503	1756	749	107	755	66	
67	260	30.6	931	140	750	811	185	667	81	748	313	304	192	303	627	115	515	1789	765	108	769	67	
68	259	31.0	949	142	762	827	189	677	81	761	319	305	196	312	642	118	528	1829	782	110	783	68	
69	258	31.5	967	145	775	842	193	686	81	773	325	306	201	321	657	122	540	1863	798	111	797	69	
70	256	31.9	985	147	787	857	196	696	81	786	331	307	205	331	672	125	553	1904	815	112	810	70	
71	255	32.4	1003	149	800	872	200	705	81	798	337	308	209	340	687	128	565	1938	821	113	824	71	
72	254	32.9	1021	151	813	887	204	714	82	810	343	309	214	350	702	131	578	1973	847	114	838	72	
73	253	33.4	1039	154	825	902	208	723	82	823	349	309	218	360	717	135	591	2015	865	116	852	73	
74	251	33.8	1057	156	838	917	211	732	82	835	355	310	223	369	732	138	604	2050	881	117	865	74	
75	250	34.3	1074	159	850	932	215	741	82	847	360	311	227	380	748	141	617	2085	897	118	879	75	
76	249	34.8	1092	161	863	948	219	750	82	859	366	312	232	390	764	145	631	2120	913	119	892	76	
77	248	35.3	1110	163	876	963	223	759	83	871	372	313	237	400	780	148	644	2164	931	120	906	77	
78	246	35.7	1128	165	888	978	226	768	83	883	378	313	241	410	796	152	658	2200	948	121	920	78	
79	245	36.2	1146	168	900	993	230	777	83	895	384	314	246	421	812	155	672	2236	964	123	933	79	
80	244	36.6	1164	170	912	1008	234	786	83	907	390	315	251	432	828	159	686	2272	980	124	947	80	
81	243	37.1	1182	173	925	1023	238	794	84	919	396	315	256	443	845	163	700	2308	997	125	960	81	
82	241	37.6	1200	175	938	1038	242	803	84	931	402	316	260	454	861	166	714	2345	1013	126	974	82	
83	240	38.1	1218	177	950	1053	245	812	84	943	408	317	265	465	878	170	728	2382	1030	127	987	83	
84	239	38.6	1236	179	962	1068	249	820	84	955	414	317	270	476	895	174	743	2428	1049	129	1001	84	
85	238	39.0	1258	182	974	1084	253	829	84	966	420	318	275	487	912	178	757	2465	1065	130	1014	85	
86	237	39.5	1271	184	986	1099	257	838	85	978	426	318	280	499	930	182	772	2503	1082	131	1028	86	
87	236	39.9	1289	187	998	1114	260	846	85	990	432	319	285	511	957	185	787	2540	1099	133	1041	87	
88	235	40.5	1307	188	1011	1129	264	855	85	1001	438	319	290	522	965	982	189	802	2578	1116	134	1054	88
89	234	40.9	1325T	191T	1023T	1144T	268T	863T	85T	1013T	444T	320T	295L	534L	982L	193L	2608	1131T	135T	1068T	89		

W = 0.64 K/FT.

LOADING	POSITIVE MOMENTS (KIP-FEET)										NEGATIVE MOMENTS (KIP-FEET)												
	TRUCK (T)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T		
ALTERNATIVE (A)																							
LANE (L)																							
W = 0.64 k/ft.																							
IMPACT NOT INCLUDED HINGE AT 1/12 POINT (0.083L) $K_{AB} = 0.027$ $C_{AB} = 11,000$ $K_{BA} = 3,270$ $C_{BA} = 0.091$																							
IMPACT FACTOR	MAXIMUM POSITIVE MOMENTS	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM	SBM	FEM		
0.1	41.4	1343 T	193 T	1035 T	1159 T	272 T	872 T	902 T	86 T	1025 T	450 T	320 T	301 L	546 L	1000 L	197 L	832 L	2645	1147 T	136 T	1081 T	90	
0.2	231	41.9	1361	196	1048	1174	276	880	914	86	1036	456	321	306	559	1018	201	847	2684	1164	137	1095	91
0.3	230	42.3	1329	198	1060	1189	280	888	925	86	1048	462	321	311	571	1036	206	863	2723	1181	139	1108	92
0.4	229	42.8	1397	201	1072	1205	283	897	937	87	1059	467	322	316	584	1055	210	878	2762	1198	140	1121	93
0.5	228	43.3	1415	202	1085	1220	287	905	948	87	1071	473	322	322	596	1073	214	894	2801	1216	141	1135	94
0.6	227	43.8	1433	205	1097	1235	291	913	960	87	1082	479	323	327	609	1092	218	910	2840	1233	143	1148	95
0.7	226	44.3	1451	207	1109	1250	295	922	972	87	1094	485	323	333	622	1111	222	926	2880	1250	144	1161	96
0.8	225	44.7	1468	210	1121	1265	299	930	983	88	1105	491	323	338	635	1130	227	940	2910	1265	145	1175	97
0.9	224	45.1	1485	211	1131	1280	303	938	995	33	1116	497	324	344	648	1149	231	959	2950	1282	146	1188	98
0.99	223	45.6	1504	215	1144	1295	306	946	1006	88	1128	503	324	349	661	1168	235	975	2990	1300	148	1201	99
1.0	222	46.1	1522	217	1156	1310	310	955	1018	88	1139	509	325	355	675	1187	240	992	3030	1317	149	1214	100
1.01	221	46.6	1540	219	1168	1326	314	963	1029	89	1150	515	325	360	688	1207	244	1008	3070	1334	150	1228	101
1.02	220	47.1	1558	221	1181	1341	318	971	1041	89	1162	521	325	366	702	1227	249	1025	3401	1350	151	1241	102
1.03	219	47.6	1576	224	1193	1356	322	979	1052	89	1173	527	326	372	716	1246	253	1042	3141	1367	153	1254	103
1.04	218	48.0	1594	226	1205	1371	326	987	1064	90	1184	533	326	377	730	1266	258	1059	3182	1385	154	1267	104
1.05	217	48.5	1612	228	1217	1386	329	995	1075	90	1195	539	326	383	744	1287	263	1077	3213	1400	155	1281	105
1.06	216	49.0	1630	231	1229	1401	333	1003	1087	90	1207	545	327	389	758	1307	267	1094	3254	1417	156	1294	106
1.07	216	49.4	1648	233	1241	1416	337	1012	1098	90	1218	551	327	395	772	1327	272	1112	3296	1435	158	1307	107
1.08	215	49.9	1666	236	1253	1431	341	1020	1110	91	1229	557	327	401	787	1348	277	1129	3337	1453	159	1320	108
1.09	214	50.4	1683	238	1264	1446	345	1028	1121	91	1240	563	327	407	802	1369	282	1147	3368	1468	160	1333	109
1.10	213	50.9	1702	240	1278	1462	349	1036	1133	91	1251	569	328	413	816	1390	286	1165	3410	1486	162	1346	110
1.11	212	51.4	1719	242	1289	1477	352	1044	1144	92	1262	575	328	419	831	1411	291	1183	3441	1501	163	1360	111
1.12	211	51.9	1737	245	1301	1492	356	1052	1156	92	1273	581	328	425	846	1432	296	1201	3483	1519	164	1373	112
1.13	210	52.3	1755	247	1313	1507	360	1060	1167	92	1285	587	329	431	851	1453	301	1220	3526	1537	166	1386	113
1.14	209	52.8	1773	250	1325	1522	364	1068	1179	93	1296	593	329	437	877	1475	306	1228	3557	1552	167	1399	114
1.15	208	53.2	1791	252	1337	1537	368	1076	1190	93	1307	599	329	443	892	1496	311	1257	3599	1570	168	1412	115
1.16	207	53.7	1809	254	1349	1552	372	1084	1202	93	1318	605	329	450	908	1518	316	1226	3642	1588	170	1425	116
1.17	207	54.2	1827	257	1360	1567	376	1092	1213	93	1329	611	330	456	923	1540	322	1224	3674	1604	171	1438	117
1.18	206	54.6	1845	259	1372	1583	379	1100	1225	94	1340	617	330	462	939	1562	327	1313	3717	1622	172	1452	118
1.19	205	55.1	1863 T	262 T	1384 T	1598 T	381 T	1102 T	1236 T	94 T	1351 T	623 T	330 T	469 L	955 L	1585 L	332 L	1393 L	3748	1637 T	173 T	1465 T	119

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LOADING	POSITIVE MOMENTS (KIP-FEET)						NEGATIVE MOMENTS (KIP-FEET)						
	MAXIMUM MOMENTS AT 0.3 POINT	FEM # A	FEM # B	SBM # 0.3L	FEM # A	FEM # B	MAXIMUM MOMENTS AT 0.8 POINT	FEM # A	FEM # B	SBM # 0.8L	FEM # A	FEM # B	
TRUCK (T)	0.3L ft	5BM # 0.3L	5BM # 0.3L	W = 0.64 k/ft.	W = 0.64 k/ft.	W = 0.64 k/ft.	0.8L ft	5BM # 0.8L	5BM # 0.8L	W = 0.64 k/ft.	5BM # 0.8L	5BM # 0.8L	
ALTERNATIVE (A)	A	B	A	B	A	B	A	B	A	B	A	B	
LANE (L)	A	B	A	B	A	B	A	B	A	B	A	B	
HINGE AT 1/2 POINT (0.83 L)	K <sub>ab</sub> = 0.027	C <sub>ab</sub> = 11,000	K <sub>ba</sub> = 3,270	C <sub>ba</sub> = 0,091									
IMPACT NOT INCLUDED													
120 204 55.7 1881T 263T 1399T 1613T 387T 1115T 1248T 94T 1362T 629T 330T 475L 971L 1607L 337L 1352L 337L 37.92 1655L 175T 175T 1478T 120													
121 203 56.1 1899 266 1409 1628 391 1123 1260 95 1373 635 331 481 988 1630 342 1371 1371 38.24 1671 176 1491 121													
122 202 56.6 1917 268 1421 1643 395 1131 1271 95 1384 641 331 486 1004 1652 348 1391 1391 38.67 1689 177 1504 122													
123 202 57.1 1935 271 1432 1658 399 1139 1283 95 1395 647 331 494 1021 1675 353 1411 1411 38.99 1704 178 1517 123													
124 201 57.5 1953 273 1444 1673 403 1147 1294 96 1405 653 331 501 1037 1698 359 1430 1430 39.43 1723 180 1530 124													
125 200 58.0 1970 276 1456 1688 406 1155 1306 96 1416 659 331 508 1054 1722 364 1450 1450 39.75 1738 181 1543 125													
126 199 58.5 1988 278 1468 1704 410 1163 1317 96 1427 664 332 514 1071 1745 370 1470 1470 40.19 1756 183 1556 126													
127 198 58.9 2006 280 1479 1719 414 1171 1329 97 1438 670 332 521 1088 1768 375 1491 1491 40.51 1772 184 1569 127													
128 198 59.4 2024 283 1491 1734 418 1178 1340 97 1449 676 332 528 1105 1792 381 1511 1511 40.96 1790 185 1582 128													
129 197 59.9 2042 285 1503 1749 422 1186 1352 97 1460 682 332 534 1123 1816 386 1531 1531 41.28 1806 186 1595 129													
130 196 60.4 2060 287 1516 1764 426 1194 1363 98 1471 686 332 541 1140 1840 392 1552 1552 41.73 1824 188 1608 130													
131 195 60.9 2078 289 1528 1779 430 1202 1375 98 1482 694 333 548 1158 1864 398 1573 1573 42.05 1840 189 1622 131													
132 195 61.4 2096 292 1540 1794 434 1210 1386 98 1492 700 333 555 1175 1888 403 1594 1594 42.50 1858 191 1635 132													
133 194 61.6 2114 294 1551 1809 437 1218 1398 99 1503 706 333 562 1193 1913 409 1615 1615 42.83 1874 192 1648 133													
134 193 62.3 2132 296 1563 1824 441 1225 1409 99 1514 712 333 569 1211 1937 415 1636 1636 43.28 1893 193 1661 134													
135 192 62.8 2150 299 1575 1840 445 1233 1421 99 1525 718 333 576 1229 1962 421 1657 1657 43.60 1824 188 1608 130													
136 192 63.2 2168 301 1587 1855 449 1241 1432 99 1536 724 334 583 1248 1987 427 1679 1679 44.06 1840 189 1622 131													
137 191 63.7 2186 304 1598 1870 453 1249 1444 100 1546 730 334 590 1266 2012 433 1700 1700 44.39 1943 197 1700 137													
138 190 64.2 2204 306 1610 1885 457 1256 1455 100 1557 736 334 597 1285 2037 439 1722 1722 44.85 1961 199 1713 138													
139 189 64.6 2222 309 1622 1900 461 1264 1467 100 1568 742 334 604 1303 2062 445 1744 1744 45.17 1977 200 1726 139													
140 189 65.1 2239 311 1633 1915 465 1272 1478 101 1579 748 334 612 1322 2088 451 1766 1766 45.50 1993 201 1739 140													
141 188 65.6 2257 314 1645 1930 468 1280 1490 101 1589 754 334 619 1341 2113 457 1788 1788 45.97 2012 203 1752 141													
142 187 66.0 2275 316 1657 1945 472 1287 1501 101 1600 760 335 626 1360 2139 463 1810 1810 46.29 2027 204 1765 142													
143 187 66.6 2294 317 1670 1961 476 1295 1513 102 1611 766 335 634 1379 2165 469 1833 1833 46.76 2046 205 1778 143													
144 186 67.1 2311 320 1682 1976 480 1303 1524 102 1621 772 335 641 1399 2191 476 1855 1855 47.09 2062 206 1791 144													
145 185 67.6 2329 322 1694 1991 484 1311 1536 102 1632 778 335 648 1418 2217 482 1878 1878 47.41 2078 207 1804 145													
146 185 68.0 2347 325 1705 2006 488 1318 1548 103 1643 784 335 656 1438 2244 488 1901 1901 47.89 2097 209 1817 146													
147 184 68.5 2365 327 1717 2021 492 1326 1559 103 1654 790 335 663 1458 2270 495 1923 1923 48.22 2112 210 1830 147													
148 183 69.0 2383 329 1729 2036 496 1334 1571 104 1664 796 335 671 1477 2297 501 1947 1947 48.69 2131 212 1843 148													
149 182 69.4 2401T 332T 1740T 2051T 499T 1342T 1582T 104T 1672T 802T 336T 679L 1498L 2324L 507L 1970L 1970L 49.02 2147T 213T 1856T 149													

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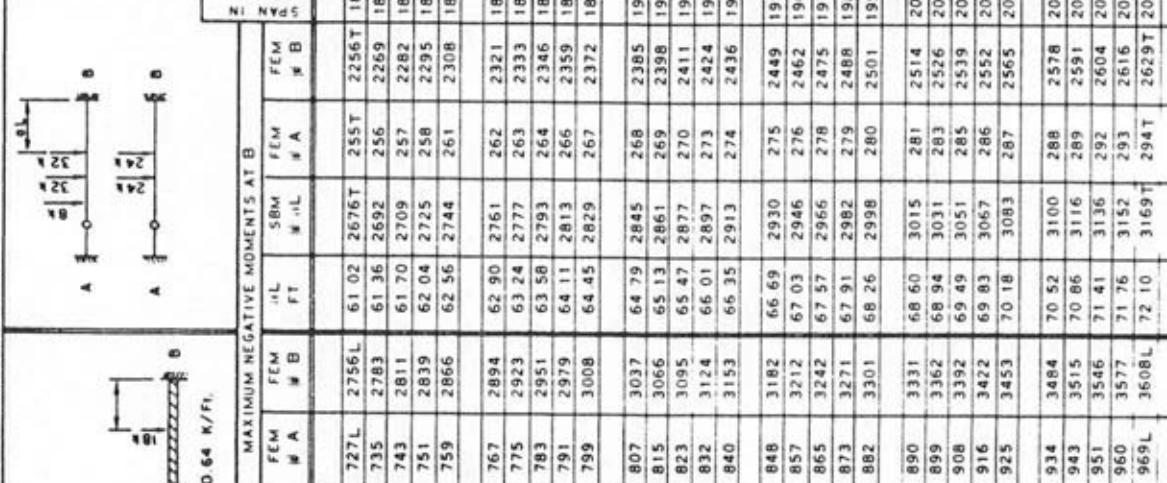
ONE LANE LIVE LOAD (HS 20-44) IMPACT NOT INCLUDED HINGE AT 1/2 POINT (0.083L) $K_{AB} = 0.027$ $C_{AB} = 11.000$ $K_{BA} = 3.270$ $C_{BA} = 0.091$										NEGATIVE MOMENTS (KIP-FEET)											
POSITIVE MOMENTS (KIP-FEET)										MAXIMUM NEGATIVE MOMENTS AT B											
LOADING		MOMENTS AT 0.3 POINT				MOMENTS AT 0.8 POINT				MOMENTS AT B				MAXIMUM NEGATIVE MOMENTS AT A				MAXIMUM NEGATIVE MOMENTS AT B			
SPANNING LENGTH (L)	SPAN (S)	MAXIMUM POSITIVE MOMENTS	FEM	FEM	SBM	FEM	FEM	FEM	FEM	MAXIMUM NEGATIVE MOMENTS AT B	FEM	FEM	SBM	FEM	FEM	FEM	FEM	FEM	FEM		
TRUCK (T)	A	0.3L	#A	#B	#0.3L	#A	#B	#0.8L	#A	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.		
ALTERNATIVE (A)	A	0.3L	#A	#B	#0.3L	#A	#B	#0.8L	#A	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.		
LANE (L)	A	0.3L	#A	#B	#0.3L	#A	#B	#0.8L	#A	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.	W = 0.64 K/FT.		
150	182	69.9	2419T	338T	1752T	2066T	503T	1349T	104T	1686T	808T	336T	686L	1518L	2351L	514L	1993L	49.35	2163T	214T	
151	181	70.4	2437	337	1764	2082	507	1357	105	1696	814	336	694	1538	2378	520	2040	50.16	2182	216	
152	181	70.8	2455	339	1775	2097	511	1365	105	1707	820	336	702	1558	2405	527	2040	50.16	2198	217	
153	180	71.3	2473	342	1787	2112	515	1372	105	1717	826	336	709	1579	2433	534	2064	50.49	2214	218	
154	179	71.8	2491	344	1798	2127	519	1380	106	1728	832	336	717	1600	2460	540	2088	50.97	2233	220	
155	179	72.2	2509	347	1810	2142	523	1388	106	1739	838	336	725	1621	2488	547	2112	51.30	2249	221	
156	178	72.7	2526	349	1822	2157	527	1395	106	1749	844	337	733	1641	2516	554	2136	51.64	2265	222	
157	177	73.3	2545	350	1836	2172	530	1403	107	1760	850	337	741	1663	2544	560	2160	52.12	2284	224	
158	177	73.8	2563	353	1847	2187	534	1411	107	1771	856	337	749	1684	2572	567	2185	52.46	2300	225	
159	176	74.3	2581	355	1859	2202	538	1418	107	1781	862	337	757	1705	2601	574	2209	52.79	2316	226	
160	175	74.7	2599	357	1870	2218	542	1426	108	1792	868	337	765	1727	2629	581	2234	53.28	2335	228	
161	175	75.2	2616	360	1882	2233	546	1434	108	1802	874	337	773	1748	2658	588	2259	53.61	2351	231	
162	174	75.7	2634	362	1894	2248	550	1441	108	1813	880	337	781	1770	2687	595	2284	53.95	2367	230	
163	174	76.1	2652	365	1905	2263	554	1449	109	1823	886	337	789	1792	2716	602	2309	54.44	2386	232	
164	173	76.6	2670	367	1917	2278	558	1457	109	1834	892	338	797	1814	2745	609	2334	54.78	2402	233	
165	172	77.1	2688	370	1929	2293	562	1464	109	1845	898	338	806	1836	2774	616	2259	55.11	2418	234	
166	172	77.5	2706	372	1940	2308	565	1472	110	1855	904	338	814	1859	2803	623	2285	55.61	2437	236	
167	171	78.0	2724	374	1952	2323	569	1480	110	1866	910	338	822	1881	2833	630	2410	55.94	2454	237	
168	171	78.5	2742	377	1964	2339	573	1487	110	1876	916	338	831	1904	2863	638	2436	56.28	2470	238	
169	170	78.9	2760	379	1975	2354	577	1495	111	1887	922	338	839	1926	2893	645	2462	56.78	2489	240	
170	169	79.4	2778T	382T	1987T	2369	581	1503	111	1897	928	338	848	1949	2923	652	2488	57.12	2505	241	
171	169	81.9	3103L	701L	2437L	2384	585	1510	111	1908	934	338	856	1952	2953	660	2514	57.46	2521	243	
172	168	82.4	3135	709	2493	2399	589	1518	112	1918	940	338	865	1955	2983	667	2540	57.79	2537	244	
173	168	82.9	3167	716	2519	2414	593	1525	112	1929	946	339	873	2019	3014	674	2567	58.30	2557	246	
174	167	83.3	3199	724	2545	2429	597	1533	113	1939	952	339	882	2042	3044	682	2593	58.64	2573	247	
175	167	83.8	3232	732	2572	2444	600	1541	113	1950	958	339	890	2066	3075	689	2620	58.97	2599	248	
176	166	84.3	3264	740	2598	2460	604	1548	113	1960	964	339	899	2089	3106	697	2647	59.31	2605	249	
177	166	84.8	3297	747	2625	2475	608	1556	114	1971	970	339	908	2113	3137	704	2674	59.83	2624	251	
178	165	85.3	3330	755	2652	2490T	612T	1564T	114	1981	976	339	917	2137	3168	712	2701	60.16	2641	252	
179	164	85.7	3363L	763L	2679L	2830L	633L	1572T	114T	1992T	982T	339	926L	2161L	3200L	720L	2728L	60.50	2657T	253T	

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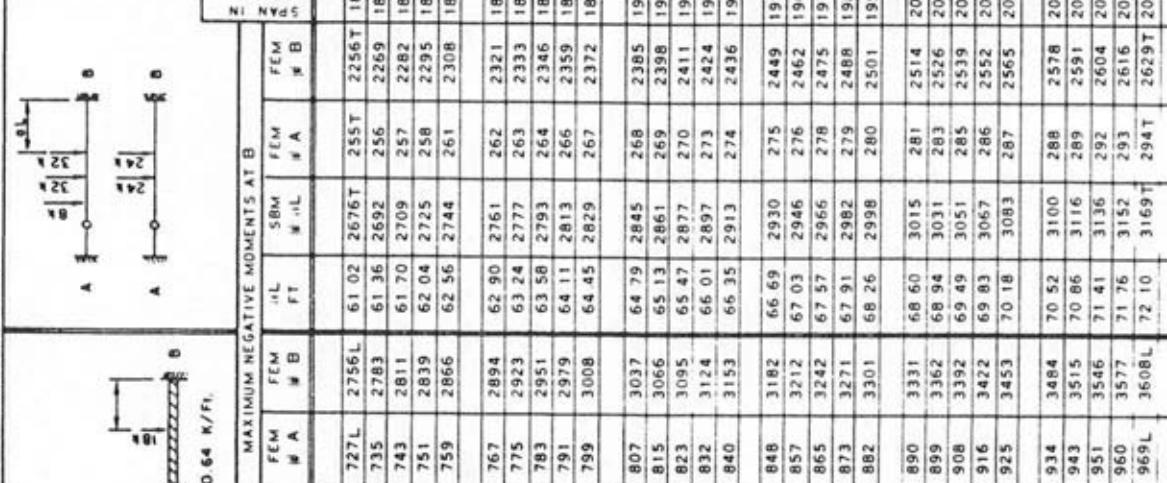
**ONE LANE LIVE LOAD (HS 20-44)**  
(IMPACT NOT INCLUDED)  
 HINGE AT 1/12 POINT (0.083L)  
 $K_{AB} = 0.027$     $C_{AB} = 11,000$   
 $K_{BA} = 3.270$     $C_{BA} = 0.091$ 
**POSITIVE MOMENTS (KIP-FEET)**

LOADING	MAXIMUM POSITIVE MOMENTS						MOMENTS AT 0.3 POINT						MOMENTS AT 0.8 POINT						MAXIMUM NEGATIVE MOMENTS						MAXIMUM NEGATIVE MOMENTS AT B					
	#L FT	5BM #L FT	FEM #A #B	FEM #A #B	FEM #A #B	FEM #A #B	#L FT	5BM #L FT	FEM #A #B	FEM #A #B	FEM #A #B	FEM #A #B	#L FT	5BM #L FT	FEM #A #B	FEM #A #B	FEM #A #B	FEM #A #B	#L FT	5BM #L FT	FEM #A #B	FEM #A #B	FEM #A #B	FEM #A #B	FEM #A #B					
TRUCK (T)	86.2	3396L	771L	2706L	2858L	841L	2516L	1939T	115T	200T	988T	339T	934L	2185L	727L	2756L	61 02	2676T	255T	2256T	180									
ALTERNATIVE (A)	86.7	3429	779	2733	2886	849	2543	1951	115	2013	994	339	943	2210	3263	735	2783	61 36	2692	256	2269	181								
LANE (L)	87.2	3463	787	2761	2914	858	2569	1962	115	2023	1000	340	952	2234	3195	743	2811	61 70	2709	257	2282	182								
	87.7	3496	795	2788	2942	866	2595	1974	116	2034	1006	340	961	2259	3227	751	2839	62 04	2725	258	2295	183								
	88.1	3530	803	2815	2971	875	2622	1985	116	2044	1012	340	970	2283	3359	759	2866	62 56	2744	261	2308	184								
	88.6	3564	812	2843	2999	883	2649	1997	116	2055	1018	340	979	2308	3391	767	2894	62 90	2761	262	2321	185								
	89.1	3598	820	2871	3028	892	2675	2008	117	2065	1024	340	989	2333	3424	775	2923	63 24	2777	263	2333	186								
	89.6	3633	828	2899	3057	901	2702	2020	117	2075	1030	340	998	2358	3456	783	2951	63 58	2793	264	2346	187								
	90.1	3667	836	2928	3086	909	2730	2031	118	2086	1036	340	1007	2384	3489	791	2979	64 11	2813	266	2359	188								
	90.5	3702	845	2955	3115	918	2757	2043	118	2096	1042	340	1016	2409	3522	799	3008	64 45	2829	267	2372	189								
	91.0	3736	853	2984	3144	927	2784	2054	118	2107	1048	340	1025	2435	3555	807	3037	64 79	2845	268	2385	190								
	91.5	3771	861	3013	3174	936	2812	2066	119	2117	1054	340	1035	2460	3588	815	3066	65 13	2861	269	2398	191								
	92.0	3806	870	3042	3203	944	2839	2077	119	2128	1060	340	1044	2486	3622	823	3095	65 47	2877	270	2411	192								
	92.4	3842	878	3070	3223	953	2867	2089	119	2138	1066	341	1053	2512	3655	832	3124	66 01	2897	273	2424	193								
	92.8	3877	887	3099	3262	962	2895	2100	120	2148	1072	341	1063	2538	3689	840	3153	66 35	2913	274	2446	194								
	93.4	3913	895	3129	3292	971	2923	2112	120	2159	1078	341	1072	2564	3723	848	3182	66 69	2930	275	2449	195								
	93.9	3948	904	3158	3322	980	2951	2124	120	2169	1083	341	1082	2591	3757	857	3212	67 03	2946	276	2462	196								
	94.4	3984	913	3187	3353	989	2980	2135	121	2180	1089	341	1091	2617	3791	865	3242	67 57	2966	278	2475	197								
	94.8	4020	921	3217	3383	998	3008	2147	121	2190	1095	341	1101	2644	3825	873	3271	67 91	2982	279	2488	198								
	95.3	4056	930	3246	3413	1007	3037	2158	122	2200	1101	341	1111	2671	3860	882	3301	68 26	2998	280	2501	199								
	95.8	4093	939	3275	3444	1017	3056	2170	122	2211	1107	341	1120	2698	3894	890	3331	68 60	3015	281	2514	200								
	96.3	4129	948	3306	3475	1026	3094	2181	122	2221	1113	341	1130	2725	3929	899	3362	68 94	3031	283	2526	201								
	96.8	4166	957	3336	3505	1035	3123	2193	123	2232	1119	341	1140	2752	3964	908	3392	69 49	3051	285	2539	202								
	97.2	4203	966	3365	3537	1044	3153	2204	123	2242	1125	341	1150	2779	3999	916	3422	69 83	3067	286	2552	203								
	97.7	4240	975	3397	3568	1054	3182	2216	123	2252	1131	342	1160	2807	4034	925	3453	70 18	3083	287	2565	204								
	98.2	4277	983	3427	3599	1063	3211	2227	124	2263	1137	342	1170	2834	4070	934	3484	70 52	3100	288	2578	205								
	98.7	4314	993	3458	3630	1073	3241	2239	124	2273	1143	342	1179	2862	4105	943	3515	70 86	3116	289	2591	206								
	99.2	4352	1002	3489	3662	1082	3271	2250	124	2284	1149	342	1189	2880	4141	951	3546	71 41	3136	292	2604	207								
	99.6	4389	1011	3519	3694	1091	3300	2262	125	2294	1155	342	1199	2918	4176	960	3577	71 76	3152	293	2616	208								
	100.1	4427L	1020L	3550L	3725L	1101L	3300L	2273T	125T	2304T	1161T	342T	1210L	2946L	4212L	969L	3608L	72 10	3169T	294T	2629T	209								

NEGATIVE MOMENTS (KIP-FEET)



MAXIMUM POSITIVE MOMENTS



MAXIMUM NEGATIVE MOMENTS



MAXIMUM NEGATIVE MOMENTS AT B



## TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD

Spans in Feet; Moments in FtK per lane at  $\frac{C}{2}$  Span. Impact not included.

## LOAD CONDITION

SPAN		P-5	P-7	P-9	P-11	P-13
1		6.5				
2		13.0				
3		19.5				
4		26.0				
5		32.5				
6		39.0				
7		45.5				
8		52.0				
9		58.5				
10		66.0	Note: Values given are based on groups of two 24 kip axles spaced 4'-6" apart. Values will not agree with computer programs that use groups of single 48 kip axles.			
11		78.0				
12		90.0				
13		102.0				
14		114.0				
15		126.0				
16		138.0				
17		150.0				
18		162.0				
19		174.0				
20		186.0				
21		198.0				
22		210.0				
23		222.0				
24		234.0				
25		246.0				
26		258.0				
27		270.1				
28		288.0				
29		306.0				
30		324.0				
31		342.0				

TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD (Cont'd)

SPAN		P-5	P-7	P-9	P-11	P-13
32		360.0				
33		378.0				
34		396.0				
35		414.0				
36		432.0				
37		456.0	462.0			
38		480.0	492.0			
39		504.0	522.0			
40		528.0	552.0			
41		555.3	582.0			
42		585.8	612.0			
43		610.3	642.0			
44		646.8	672.0			
45		677.3	702.0			
46		707.8	738.0			
47		738.3	774.0			
48		768.8	810.0			
49		799.3	846.0			
50		829.8	882.0			
51		860.3	918.0			
52		890.8	954.0			
53		921.3	990.0			
54		951.8	1026.0			
55		982.3	1062.0			
56		1012.8	1098.0			
57		1043.3	1134.0			
58		1073.8	1170.0			
59		1104.3	1206.0			
60		1134.8	1242.0			
61		1165.3	1248.0			
62		1195.8	1314.0			
63		1226.3	1350.0			
64		1256.8	1386.0	1392.0		
65		1287.3	1422.0	1434.0		

TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD (Cont'd)

SPAN		P-5	P-7	P-9	P-11	P-13
66		1317.8	1458.0	1476.0		
67		1348.3	1494.0	1518.0		
68		1378.8	1533.2	1560.0		
69		1409.3	1575.7	1602.0		
70		1439.8	1618.2	1644.0		
71		1470.3	1660.7	1686.0		
72	:	1500.8	1703.2	1728.0		
73		1531.3	1745.7	1776.0	1782.0	
74		1561.8	1788.2	1824.0	1836.0	
75		1592.3	1830.7	1872.0	1890.0	
76		1622.8	1873.2	1920.0	1944.0	
77		1653.3	1915.7	1971.2	1998.0	
78		1683.8	1958.2	2025.7	2052.0	
79		1714.3	2000.7	2080.2	2106.0	
80		1744.8	2043.2	2134.7	2160.0	
81		1775.3	2085.7	2189.2	2214.0	
82		1805.8	2128.2	2243.7	2274.0	
83		1836.3	2170.7	2298.2	2334.0	
84		1866.8	2213.2	2352.7	2394.0	
85		1897.3	2255.7	2407.2	2454.0	
86		1927.8	2298.2	2461.7	2514.0	
87		1958.3	2340.7	2516.2	2574.0	
88		1988.8	2383.2	2570.7	2634.0	
89		2019.3	2425.7	2625.2	2694.0	
90		2049.8	2468.2	2679.7	2754.0	
91		2080.3	2510.7	2734.2	2814.0	
92		2110.8	2553.2	2788.7	2874.0	
93		2141.3	2595.7	2843.2	2934.0	
94		2171.8	2638.2	2897.7	2994.0	
95		2202.3	2680.7	2952.2	3054.0	
96		2232.8	2723.2	3006.7	3114.0	
97		2263.3	2765.7	3061.2	3174.0	
98		2293.8	2808.2	3115.7	3164.9	
99		2324.3	2850.7	3170.2	3294.0	

TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD (Cont'd)

SPAN		P-5	P-7	P-9	P-11	P-13
100		2354.8	2893.2	3224.7	3354.0	3360.1
101		2385.3	2935.7	3279.2	3414.0	3426.1
102		2415.8	2978.2	3333.7	3474.0	3492.1
103		2446.3	3020.7	3388.2	3534.0	3558.1
104		2476.8	3063.2	3442.7	3597.3	3624.1
105		2507.3	3105.7	3497.2	3663.8	3690.1
106		2537.8	3148.2	3551.7	3730.3	3756.1
107		2568.3	3190.7	3606.2	3796.8	3822.1
108		2598.8	3233.2	3660.7	3863.3	3888.0
109		2629.3	3275.7	3715.2	3929.8	3960.0
110		2659.3	3318.2	3769.7	3996.3	4032.0
111		2690.3	3360.7	3824.2	4062.8	4104.0
112		2720.8	3403.2	3878.7	4129.3	4176.0
113		2751.2	3445.7	3933.2	4195.8	4251.2
114		2781.8	3488.2	3987.7	4262.3	4329.7
115		2812.3	3530.7	4042.2	4328.8	4408.2
116		2842.8	3573.2	4096.7	4395.3	4486.7
117		2873.3	3615.7	4151.2	4461.8	4565.2
118		2903.8	3658.2	4205.7	4528.3	4643.7
119		2934.3	3700.7	4260.2	4594.8	4722.2
120		2964.8	3743.2	4314.7	4661.3	4800.7
121		2995.3	3785.7	4369.2	4727.8	4879.2
122		3025.8	3828.2	4423.7	4794.3	4957.7
123		3056.3	3870.7	4478.2	4860.8	5036.2
124		3086.8	3913.2	4532.7	4927.3	5114.7
125		3117.3	3955.7	4587.2	4993.8	5193.2
126		3147.8	3998.2	4641.7	5060.3	5271.7
127		3178.3	4040.7	4696.2	5126.8	5350.2
128		3208.8	4083.2	4750.7	5193.3	5428.7
129		3239.3	4125.7	4805.2	5259.8	5507.2
130		3269.8	4168.2	4859.7	5326.3	5585.7
131		3300.3	4210.7	4914.2	5392.8	5664.2
132		3330.8	4253.2	4968.7	5459.3	5742.7
133		3361.3	4295.7	5023.2	5525.8	5821.2

TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD (Cont'd)

SPAN		P-5	P-7	P-9	P-11	P-13
134		3391.8	4338.2	5077.7	5592.3	5899.7
135		3422.3	4380.7	5132.2	5658.8	5978.2
136		3452.8	4423.2	5186.7	5725.3	6056.7
137		3483.3	4465.7	5241.2	5791.8	6135.2
138		3513.8	4508.2	5295.7	5858.3	6213.7
139		3544.3	4550.7	5350.2	5924.8	6292.2
140		3574.8	4593.2	5404.7	5991.3	6370.7
141		3605.3	4635.7	5459.2	6057.8	6449.2
142		3635.8	4678.2	5513.7	6124.3	6527.7
143		3666.3	4720.7	5568.2	6190.8	6606.2
144		3695.8	4763.2	5622.7	6257.3	6684.7
145		3727.3	4805.7	5677.2	6323.8	6763.2
146		3757.8	4848.2	5731.7	6390.3	6841.7
147		3788.3	4890.7	5786.2	6456.8	6920.2
148		3818.8	4933.2	5840.7	6523.3	6998.7
149		3849.3	4975.7	5895.2	6589.8	7077.2
150		3879.8	5018.2	5949.7	6656.3	7155.7
151		3910.3	5060.7	6004.2	6722.8	7234.2
152		3940.8	5103.2	6058.7	6789.3	7312.7
153		3971.3	5145.7	6113.2	6855.8	7391.2
154		4001.8	5188.2	6167.7	6922.3	7469.7
155		4032.3	5230.7	6222.2	6988.8	7548.2
156		4062.8	5273.2	6276.6	7055.3	7676.7
157		4093.3	5315.7	6331.2	7121.8	7705.2
158		4123.8	5358.2	6385.7	7188.3	7783.7
159		4154.3	5400.7	6440.2	7254.8	7862.2
160		4184.8	5443.2	6494.7	7321.3	7940.7
161		4215.3	5485.7	6549.2	7387.8	8019.2
162		4245.8	5528.2	6603.7	7454.3	8097.7
163		4276.3	5570.7	6658.2	7520.8	8176.2
164		4306.8	5613.2	6712.7	7587.3	8254.7
165		4337.3	5655.7	6767.2	7653.8	8333.2
166		4367.8	5698.2	6821.7	7720.3	8411.7
167		4398.3	5740.7	6876.2	7786.8	8490.2

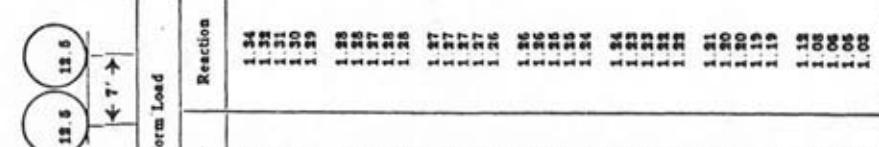
TABLE OF MAXIMUM MOMENTS FOR PERMIT LOAD (Cont'd)

SPAN		P-5	P-7	P-9	P-11	P-13
168		4428.8	5783.2	6930.7	7853.3	8568.7
169		4459.3	5825.7	6985.2	7919.8	8647.2
170		4489.8	5868.2	7039.7	7986.3	8725.7
171		4520.3	5910.7	7094.2	8052.8	8804.2
172		4550.8	5953.2	7148.7	8119.3	8882.7
173		4581.3	5995.7	7203.2	8185.8	8961.2
174		4611.8	6038.2	7257.7	8252.3	9039.7
175		4642.3	6080.7	7312.2	8318.8	9118.2
176		4672.8	6123.2	7366.7	8385.3	9196.7
177		4703.3	6165.7	7421.2	8451.8	9275.2
178		4733.8	6208.2	7475.7	8518.3	9353.8
179		4764.3	6250.7	7530.2	8584.8	9432.2
180		4794.8	6293.2	7584.7	8651.3	9510.7
181		4825.3	6335.7	7639.2	8717.8	9589.2
182		4855.8	6378.2	7693.7	8784.3	9667.7
183		4886.3	6420.7	7748.2	8850.8	9746.2
184		4916.8	6463.2	7802.7	8917.3	9824.7
185		4947.3	6505.7	7857.2	8983.8	9903.2
186		4977.8	6548.2	7911.7	9050.3	9981.7
187		5008.3	6590.7	7966.2	9116.8	10060.2
188		5038.8	6633.2	8020.7	9183.3	10138.7
189		5069.3	6675.7	8075.2	9249.9	10217.2
190		5099.8	6718.2	8129.7	9316.3	10295.7
191		5130.3	6760.7	8184.2	9382.8	10374.2
192		5160.8	6803.2	8238.7	9449.3	10452.7
193		5191.3	6845.7	8293.2	9515.8	10531.2
194		5221.8	6888.2	8347.7	9582.3	10609.7
195		5252.3	6930.7	8402.2	9648.8	10688.2
196		5282.8	6973.2	8456.7	9715.3	10766.7
197		5313.3	7015.7	8511.2	9781.8	10845.2
198		5343.8	7058.2	8565.7	9848.3	10923.7
199		5374.3	7100.7	8620.2	9914.8	11002.2
200		5404.8	7143.2	8674.7	9981.3	11080.7

**CHART B**  
**STEAM RAILROAD LOADING**

**MAXIMUM MOMENTS, SHEARS, AND REACTIONS FOR CLASS E-10 ENGINE LOADING**  
One Track of Two Rails

Span in Feet	Maximum Moment in Foot-Kips	Maximum Shear in Kips	Maximum Floor-beam Reaction Kips	Equivalent Uniform Load				Span in Feet	Shear	Reaction	
				Moment	Shear	Reaction	Equivalent Uniform Load				
7	21.9	12.6	15.1	3.57	3.67	2.16	42	256.7	39.2	86.0	1.87
7½	22.6	13.4	16.0	3.33	3.56	2.12	44	285.8	40.3	85.2	1.83
8	23.0	14.0	16.8	3.12	3.51	2.11	45	414.9	41.4	100.3	1.80
8½	23.5	15.3	18.2	2.76	3.29	2.02	45	443.8	42.4	102.4	1.77
9	24.0	16.2	19.2	2.50	3.25	1.92	50	475.6	43.5	104.4	1.74
10	24.4	17.0	21.0	2.35	3.09	1.90	52	507.6	44.6	106.7	1.72
11	24.4	17.0	21.0	2.23	3.05	1.94	54	540.5	45.6	109.0	1.68
12	40.0	22.3	23.3	2.10	3.00	1.95	56	576.1	46.5	111.5	1.63
13	47.5	24.3	24.6	2.07	2.81	1.90	56	611.6	47.5	114.4	1.57
14	56.0	26.8	26.1	2.05	2.68	1.86	58	649.6	48.6	116.0	1.53
15	62.6	30.0	27.3	2.22	2.67	1.82	60	649.6	48.6	116.0	1.53
16	70.0	31.3	29.5	2.19	2.64	1.73	62	688.2	50.0	117.1	1.48
17	77.5	32.4	30.4	2.15	2.63	1.73	64	727.7	51.1	118.5	1.44
18	85.0	33.3	30.3	2.10	2.59	1.69	66	769.7	52.5	120.9	1.41
19	93.3	34.3	31.5	2.07	2.55	1.65	68	811.7	53.9	123.3	1.37
20	103.1	35.0	32.8	2.05	2.50	1.64	70	853.7	55.3	125.8	1.33
21	112.9	36.7	34.0	2.05	2.45	1.63	72	896.7	56.7	128.2	1.30
22	122.3	37.5	35.1	2.03	2.40	1.60	74	939.0	58.1	130.6	1.27
23	132.7	37.0	36.1	2.01	2.34	1.57	76	986.0	59.5	133.0	1.24
24	143.7	37.7	37.0	1.98	2.31	1.54	78	1032.7	60.9	135.4	1.21
25	155.6	38.4	37.8	1.95	2.27	1.51	80	1080.0	62.1	137.8	1.18
26	162.4	39.1	38.8	1.92	2.24	1.49	82	1128.3	63.6	140.5	1.15
27	172.3	39.6	40.0	1.89	2.20	1.48	84	1177.7	64.8	143.8	1.13
28	182.7	39.3	41.2	1.85	2.16	1.47	86	1229.7	66.1	146.4	1.11
29	194.0	39.8	42.4	1.84	2.12	1.46	88	1282.0	67.4	149.8	1.09
30	205.2	31.5	43.1	1.83	2.10	1.44	90	1334.7	68.6	153.3	1.07
31	216.5	32.3	44.3	1.80	2.08	1.43	92	1385.3	69.9	156.9	1.05
32	237.7	32.9	45.5	1.75	2.03	1.42	94	1442.7	71.3	160.4	1.03
33	259.0	33.6	46.7	1.75	2.00	1.41	96	1497.3	72.4	164.0	1.01
34	260.3	34.1	47.5	1.73	1.98	1.40	98	1552.7	73.7	167.6	1.00
35	261.5	34.6	48.5	1.71	1.96	1.39	100	1609.7	75.0	171.2	1.19
36	274.3	35.3	49.8	1.69	1.94	1.38	102	1667.7	76.5	174.5	1.18
37	287.2	35.9	50.7	1.68	1.92	1.37	104	1723.0	78.0	178.7	1.16
38	300.0	36.5	51.8	1.64	1.90	1.36	106	1779.2	79.5	182.0	1.14
39	311.3	37.2	52.8	1.63	1.88	1.35	108	1835.0	80.8	185.3	1.12
40	323.8	37.7	54.0	1.64	1.86	1.35	110	1891.8	82.0	188.6	1.11



## CHART C

## STEAM RAILROAD LOADING

## MOMENTS IN FOOT-KIPS FOR CLASS E-10 ENGINE LOADING

One Track or Two Rails

Wheel Numbers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Axle Loads	5.0	10.0	10.0	10.0	6.5	6.5	6.5	6.5	6.5	6.5	10.0	10.0	10.0	6.5	6.5	6.5	6.5			
Spacing in feet	← 8	→ 5	→ 5	→ 5	→ 6	→ 6	→ 9	→ 5	→ 6	→ 5	→ 8	→ 8	→ 5	→ 5	→ 9	→ 5	→ 6			
Totals from end of train	Kips	142.0	137.0	117.0	97.0	90.5	84.0	77.5	71.0	65.0	55.0	45.0	35.0	26.0	19.5	13.0	6.5	0		
Feet	109	101	96	91	86	77	72	66	61	53	45	40	35	30	21	16	10	0		
End of Train	\$182.0	7637.0	6627.0	5667.0	4767.0	3897.0	3396.5	2928.5	2499.5	2103.0	1838.0	1388.0	988.0	638.0	338.0	201.5	97.5	33.5		
16	7472.0	6952.0	5992.0	5032.1	4232.0	3412.0	2944.0	2508.5	2112.0	1748.0	1508.0	1108.0	758.0	458.0	208.0	104.0	33.5			
17	6794.5	5299.5	5389.2	4529.5	3719.5	2959.5	2121.0	1767.0	1425.5	1110.5	860.5	640.5	310.5	110.5	39.0	19.0	33.5			
16	6020.5	5555.5	4705.5	3905.5	3155.5	2455.5	2059.0	1695.0	1370.0	1077.5	893.5	603.5	363.5	172.5	32.5	39.0	110.5			
15	5408.0	4958.0	4168.0	3418.0	2718.0	2068.0	1704.0	1372.5	1080.0	850.0	650.0	430.0	230.0	90.0	32.5	104.0	208.0			
14	4364.0	3569.0	3269.0	2599.0	1989.0	1429.0	1112.5	890.5	616.5	415.0	290.0	150.0	50.0	58.5	149.5	279.5	443.0			
13	3834.0	3464.0	2804.0	2194.0	1634.0	1124.0	851.0	610.5	409.0	240.0	150.0	50.0	50.0	141.0	264.5	487.0	632.0			
12	3354.0	2009.0	2399.0	1859.0	1329.0	869.0	628.5	420.5	251.5	115.0	50.0	50.0	160.0	273.5	429.5	634.5	853.0			
11	2924.0	2604.0	2044.0	1534.0	1074.0	664.0	456.0	320.5	144.0	40.0	80.0	180.0	300.0	456.0	644.5	872.0	1132.0			
10	2316.0	2036.0	1556.0	1126.0	746.0	416.0	260.0	136.5	62.0	30.0	210.0	390.0	620.0	825.0	1068.5	1348.0	1650.0			
9	1748.0	1508.0	1108.0	758.0	458.0	208.0	104.0	32.5	40.0	200.0	410.0	670.0	980.0	1240.0	1832.5	1854.0	2328.0			
8	1425.5	1210.5	860.5	550.5	310.5	110.5	39.0	32.5	97.5	307.5	567.5	877.5	1237.5	1530.0	1855.0	2119.0	2615.0			
7	1077.2	892.5	602.5	362.5	172.5	32.5	39.0	110.5	205.5	475.5	795.5	1165.5	1585.5	1917.0	2281.0	2654.0	3119.5			
6	820.0	660.0	420.0	230.0	90.0	32.5	104.0	208.0	328.0	648.0	1018.0	1438.0	1908.0	2272.0	2668.5	3104.0	3572.0			
5	415.0	300.0	150.0	60.0	55.5	149.5	279.5	442.0	607.0	1017.0	1477.0	1987.0	2547.0	2969.5	3434.5	3918.5	4465.0			
4	240.0	150.0	50.0	60.0	141.0	264.5	427.0	652.0	812.0	1272.0	1782.0	2342.0	2952.0	3407.0	3394.5	4421.0	4990.0			
3	115.0	80.0	50.0	150.0	273.5	429.5	624.5	852.0	1067.0	1577.0	2117.0	2747.0	3407.0	3894.5	4414.4	4973.5	5565.0			
2	40.0	50.0	150.0	300.0	456.0	644.5	872.0	1132.0	1378.0	1932.0	2442.0	3202.0	3918.0	4432.0	4984.5	5576.0	6200.0			
1	80.0	210.0	390.0	620.0	828.0	1058.5	1348.0	1660.0	1940.0	2580.0	3370.0	4010.0	4800.0	5378.0	5976.5	6630.0	7296.0			
Totals from wheel No. 1	Kips	6.0	15.0	35.0	35.0	45.0	61.5	65.0	64.5	71.0	76.0	86.0	96.0	106.0	116.0	122.5	129.0	135.5	142.0	142.0
Feet	0	8	13	18	23	32	37	43	48	56	64	69	74	79	85	93	99	104	109	

Moments of wheel loads about

For E-40 loading multiply moments tabulated above by 4; for E-50 loading multiply by 5; for E-60 loading multiply by 6.